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THE INDIVIDUAL IN THE MAKING

A SUBJECTIVE VIEW OF CHILD DEVELOPMENT WITH SUGGESTIONS FOR PARENTS AND TEACHERS

BY

E. A. KIRKPATRICK, B. S., M. Ph.

Author of Fundamentals of Child Study
Genetic Psychology, etc.

MANITOBA
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COLLEGE.

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TO THE MEMORY OF
THE ONE WHOSE LOVE NEVER FAILED
AND WHOSE BELIEF IN ME WAS
AT EVERY STAGE OF LIFE
A STIMULUS TO ASPIRE
AND ACHIEVE
THIS VOLUME IS
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PREFACE

In a recent work, "Genetic Psychology," the author has discussed the general principles governing the development of behavior and mind in animals and in the human race, giving special prominence to the objective facts. In this volume it is proposed to discuss the development of individual human minds only, and chiefly from the subjective point of view.

This volume is contrasted with the author's earlier book, "Fundamentals of Child Study," by its attempt to trace the development of a child's mind as a whole through various stages instead of discussing separately the various instincts and other phases of child-life. In other words the author attempts, figuratively speaking, to drive a twenty-four-horse team abreast, instead of first leading one, then another, over the course. The need that this shall be done is so great that the author attempts it, although he realizes that complete success can scarcely be expected at the present stage of the science.

The educator like the mariner needs a chart by which he may guide the child into the most favoring channels and past the most serious dangers that are found in each stage of development from childhood to maturity. The author cannot claim that the correctness of this incomplete chart of human development has been scientifically demonstrated. He can only say, that after a score of years spent in studying children, and much opportunity for observing various methods of teaching, he believes that the descriptions and suggestions herein given lead toward the truth. The ideas expressed are not given as final truth for the guidance of psychologists

and educators, but as a formulation of facts and principles to be corrected and completed by further scientific investigations and tested by practical educational experience.

The attempt has been made to make the treatment as scientific as the present state of knowledge will admit, and yet to make it sufficiently clear and concrete to be readable.

Part One is designed to give the genetic point of view, and present the general principles of development. Part Two, treating of stages of development, will be of interest to both parents and teachers, while Part Three especially concerns teachers. It is hoped that the work is sufficiently concrete and specific to be of interest and value to parents and teachers who have not received much training in psychology. It will be of most value, however, to those who have given considerable study to the subject, and have had a good deal of experience with children. For the benefit of those desiring to make a more extensive and thorough study of the topics from various points of view, a number of references are appended at the close of the book.

The author has in a way acted as an organizer and interpreter of the work of the many observers and experimenters cited in the references, to all of whom obligations are due. To one of these, the doer or inspirer of nearly all that has been done in America in studying children, Dr. G. Stanley Hall, special acknowledgments are gratefully made both for his writings and for personal inspiration. Special thanks are also due the author's wife from the author and his readers for eliminating abstract statements, complicated sentences and mechanical errors.

E. A. K.

Fitchburg Normal School, March, 1911.

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PART I

GENERAL PRINCIPLES OF SUBJECTIVE DEVELOPMENT

THE INDIVIDUAL IN THE MAKING

CHAPTER I

THE PERSONALITY

The Germ of Mental Life. The ultimate standard of value among human beings is personality; hence its development is of supreme importance. The germ of mental life in the human infant exhibits one of the most striking instances of evolution to be found in nature. Greater changes take place in the mind of an infant in a few years than in ages of plant or animal evolution. This germ of mental life is so constituted that it tends to develop according to inner laws, as does a grain of wheat, yet it is greatly modified in its development by its environment, physical and psychical.

The problem of the student of the genesis of personality is to describe the inner laws governing the development of a human being and determine how his development is influenced by the outer forces. In doing this it will be necessary first to consider briefly the nature of a conscious personality and then to discuss a mental state that is most closely identified with that development, i. e., interest. After this the stages of development may be described and their significance to the educator pointed out.

The Conscious Self. Each human mind is in a way a unity complete in itself. Many phases of the surroundings are mirrored in it and each portion of the

universe exists for it only as it comes within the circle of the individual consciousness. The consciousness of one person is separate and distinct from that of any other person. His mind is a mental world by itself — a distinct mental organism. Each mind has a life of its own, yet its vigor and health depend upon maintaining proper relations with the body, with the physical environment and with other minds, and upon a proper relation of its activities to each other. A mind in a weakened or disordered body is handicapped and the person who shuts himself off from sensory experiences, isolates himself from contact with other minds or allows one idea or passion to rule, becomes mentally abnormal and unhealthy.

The mental life is rooted in a physiological organism and really emerges as the result of the latter's activities in responding to the physical environment. In its germ the conscious self is merely an awareness of conscious states produced by physiological processes and sensory motor reactions. The infant has no control of its movements and may repeatedly scratch itself without knowing how to avoid the action. Its movements are partly of an indefinite, chance character and partly of more definite reflex and instinctive character. The infant is in somewhat of the condition of a man who should find himself in a shop where machines of all sorts were in motion. He would at first have no control over them. By noticing what happened after each motion and by pulling various cranks and levers he would learn to know what to expect at any moment and could ultimately control the various machines. In a similar way does the babe gradually gain control of his bodily movements. In the meantime the conscious states that are experienced are organized into a conscious self.

Independence of Mental Life. Although the mental life comes into existence through the activities of the physiological mechanisms and the action of the environment upon the organs of special sense, it attains a large measure of independence. After the higher cerebral centers are developed, so long as they remain in healthy activity, the mental life of thought may be carried on for long periods of time with little or no modification produced by lower centers or by outside stimulations of the special senses. One may remain at home and live mentally in a distant place or age, or on the other hand he may actually travel in distant climes and yet carry with him his home mental life. One of the most marked differences in individuals is the extent to which they become independent of their immediate environment and of moods physiologically initiated. This independence of consciousness of the immediate physiological and environmental influence is due in part to the fact that it may select for modifying itself, any portion of the environment.

By change of attention one can bring into the foreground any one of the many sensations resulting from physiological processes and sense stimulations; he may change objects or move sense organs so as to get different sensations and he may choose his future mental experiences by going where he will get new sensations, emotions and ideas, or he may engage in other activities. One can thus determine within pretty wide limits what his mental life shall be. Furthermore he not only can select objects for notice, but can modify the effects of what is noticed according to the nature of his mental life. The botanist, the gardener and the artist may select the same flower for notice, but each gets a different men-

tal experience from it, the botanist, its classification, the gardener, its use, and the artist, its beauty. In a similar way each object may appear different to the same person if he examines it with a changed purpose. A knife gives different impressions when observed for use as an article of commerce, a screwdriver, a pencil sharpener or a paperweight.

At birth, mental freedom is wholly lacking. Man does not inherit freedom, nor can it be given him; he must achieve it for himself. The degree in which it is attained is, in general, a pretty good measure of the degree of mental development and organization that has been reached by the individual.

Self-Government. Whatever amount and variety of knowledge and skill a human being may possess he is lacking in the essential characteristic of a human personality if he is not self-directing and self-governing. An individual who performs certain actions, when directed to do so, absolutely according to directions, may perform valuable service for society, but he is not in so doing, showing the essential elements of a human individual any more than is a type-writer or adding machine when fulfilling its mechanical functions. To be useful in certain lines a human being needs to become like a machine in some of his actions, yet the essential nature of human personality is not shown in such actions, but in the choosing of what he shall do and in directing his actions in accordance with his choices.

On the other hand, a person whose actions are directed wholly by the impulses of the moment is like a social group in a state of anarchy where there is little consistency in conduct. A self-governing person must

act in accordance with law just as much as the one who conforms absolutely to the directions given him. The only difference is that the law is an ideal within the individual himself instead of originating in some one else. All educational influences brought to bear upon human individuals are misdirected if they do not tend to produce a personality that governs itself in accordance with certain constant, conscious purposes or principles of conduct.

An individual is well developed only when he has had experience both in modifying things in accordance with his desires and in modifying himself in accordance with conditions or rules that he cannot change. A personality that seeks to impose its desires and wishes upon every thing and every body, if unchecked, becomes an undesirable member of society and an erratic, unhappy individual. For his own good and for the advantage of society he must realize that nature and society are stronger than he is, and instead of fretting or dashing himself against law he must learn to direct his actions according to rules and must change himself so that he will desire to conform to law. This development of personality may be produced to some extent by consistently enforced obedience but is better produced, where practicable, by having the individual engage in work and meet various social situations. These always require regulation of conduct and conformity to natural and social laws.

Unity of Personality. Not only should a well developed personality be self-directing, but it should at all times be an organized, consistent unity or be progressing toward such unity. This does not mean that one may not change his characteristics at different stages

of development but merely that at each stage there shall be unity and harmony rather than varied and conflicting tendencies.

Although ideals should be in advance of habits, yet if they are too remote to influence conduct in the direction of forming habits in accord with them, the individual is weaker, and therefore not so vicious or virtuous a person as he would be if his ideals and habits were in accord. In a similar way the formation of habits of one type under authoritative control, while at the same time holding opposing ideals of conduct, is weakening. If there is no great or long continued conscious repugnance to the directed action the tendency is, however, for one to become used to the action and finally to regard it with favor and pleasure. On the other hand, if the feelings are strong they are likely to modify the conduct either gradually as there is opportunity or in a sudden rebellion. It is very undesirable that the conflict between impulse and habit should be long continued with one, and then the other, in ascendancy.

Still worse in their ultimate effects may be the results of conflicts within the individual's own consciousness. Where one's own ideals are opposed by his desires there is war within the governing authority of consciousness. If the conflict can be settled by thinking about the matter and definitely deciding to give up one of the opposing tendencies and acting accordingly, the unity of the conscious self is restored. If this is done every time and the decision carried out without again opening the controversy, unity and strength of personality tend to be developed and established.

If on the other hand the conflict is not definitely settled one way or the other, but continually renewed,

or if it is settled by sheer force of will that merely compels action in one direction without changing the desire to do the opposite, the results are likely to be unfortunate. An impulse that is neither replaced by another nor given some sort of an outlet, may poison or paralyze as does a closed wound or a felon. Freud, Sidis, Prince and others have treated many cases of disordered personality caused by such suppression of impulses. There is good reason to believe that what are sometimes called "strangulated ideas" and impulses are the sources of a large proportion of cases of hysteria, disordered personality, diseased will and insanity that are not mainly physical in their origin. It is therefore of supreme importance to the health and strength of the mental self that its various states shall be harmonized and unified.

This means that one must have some sort of a philosophy of life and a moral code as well as standards of truth, taste, value, etc. that are harmonized with each other and with one's conduct. When any one of these change it is necessary that the others shall change to harmonize with it, if a healthful unity of personality is to be maintained. An individual may therefore be dominated by quite different impulses and ideas at different times, and yet his nature at each stage be a harmonious unity. There is, however, some loss of efficiency if one stage does not prepare for the next, and much loss if it is of a character that hinders the fullest development of the personality at each stage.

EXERCISES

1. Name if you can anything that has a value independent of any relation to a person.

2. Is there such a thing as beauty without a person to see it?

3. Is a hermit life favorable to mental health? Why?

4. In the present world could a mind exist without a body with senses and muscles?

5. How nearly complete is your control of your own body? How may it be increased?

6. Write a list of a hundred words as quickly as you can. After doing so look them over and see how many have no relation to anything you see, hear or feel at the moment.

7. Illustrate individual differences in ideas aroused by the same objects.

8. Give an example of a person showing little self-direction and of one showing great independence.

9. Which is most likely to realize the necessity of conforming to law, a farmer or a speculator? Why?

10. What is the effect of changing one's mind often or of cherishing secret wishes opposed to one's ideals? Why?

CHAPTER II

INTEREST

Nature and Functions. With no state of consciousness is the development of the mental life so closely associated as with interest. The character and degree of one's interest at any time reveal what he is and indicate what he has been and is likely to become. Interest is to mental life what digestion is to the physical. It determines what of the surroundings shall become a part of the mental self and how all shall be organized and related in consciousness. Interest not only makes one sensitive, either for the moment or permanently, to certain kinds of stimuli and causes corresponding ideas to survive in consciousness, but it gives a bent to the mind, directs the organization of ideas and thus determines what the future mental states shall be. One who is interested in birds will hear and see them more readily than other persons, will approach them and note their relation to the surroundings, will seek confirmation of his observations from other persons and from books and will, to a considerable extent, organize his ideas of nature, books and people with reference to their power to gratify his interest in birds.

Interest is usually regarded as a feeling or affective state of consciousness that is associated with corresponding activities of attention and associated movements. Interest may also exist in the form of an unconscious tendency to respond to certain kinds of stimulation. Many natural and acquired tendencies to

be interested in certain things are therefore represented in consciousness only during the stimulation that gives occasion to the activity. The bird lover may therefore be said to be interested in birds although at the moment his mind may be wholly occupied with other things. This permanent potential interest is easily changed into a positive active interest by the sight or sound of a bird, as is not the case with one who is not thus interested. The term interest is used to imply not only a feeling or readiness to feel in certain ways, but also the determination of the direction and degree of activity and effort. In this sense its meaning is almost identical with one meaning of attention.

There is a physiological and neural basis for all interest. The kind of food an animal or person is interested in depends upon his physiological structure and his previous habits. One can have no visual interest, properly speaking, if he lacks the necessary sense organ. Even in one who has normal sight there may be little interest aroused by visual sensations if the surroundings and his previous experiences in the form of habits do not tend to arouse it.

Interest is to the mental life what coördination of movements is to physical efficiency. Movements are of no value unless they are related and coördinated so as to be used now for one end, now for another. In a similar way the mental life is effective only as ideas are coördinated by the various interests. Birds may be thought of as types of animal life, as objects of beauty or as useful in destroying insects, according as the scientific, æsthetic or economic interest predominates. The mental life is thus organized and unified in relation to each class of objects according to the nature of

the interest that dominates. Our observation and thought about a pencil is determined by our needs. Interest in it may be determined by its use for writing or drawing, as an article of manufacture and commerce, as something to measure or poke with, etc. In each case a different adjustment of ideas and acts is required.

Without interest to unify our mental life, consciousness would be a jumble of miscellaneous states, while with it all are related and unified by whatever interest, momentary or permanent, serves as a determining principle of selection and organization. A sudden sound such as the ringing of a bell may disturb the present unity of our mental state and we are then interested until an explanation of the sound is found in something in our surroundings, either actually perceived or represented. In a similar way every feeling, image and idea that appears in the mind is likely to give rise to ideas that relate it to other sensations, images, ideas and movements. Whenever there is interest, activity continues until the want is satisfied and equilibrium restored or until the interest dies out without culminating in a unified mental state. In all thinking, the mental states are modified and ideas formed that bring into harmony what seemed unexplained, incomplete or conflicting.

It is contrary to the nature of consciousness to hold in mind a number of diverse states without striving to relate and unify them. Interest is therefore an indicator and preserver of healthful mental life. When we lose interest in everything our mental life drops to a very low ebb. On the other hand, the continued dominance of interest associated with one idea only is also

suggestive of mental disturbance. Many insane patients cannot be diverted in any way from one idea that dominates all their thought. Still more serious are the cases where there is no persistence of interest. The patient's ideas are diverse and disconnected to such an extent that his attention cannot be held for a single moment. So necessary are persistent, active and varied interests to a healthy mental life that one who loses his interest in everything should be placed under the care of a physician.

Teachers sometimes say that a child is not interested in anything, but if the child is healthy this is only a partial truth. After further observation he will be found to be interested in something on the playground or at home, if not in any of the school work. This preserves his mental health, yet, if during school hours he is not interested in anything, his mental life is being impoverished in the same way as would be the physical if the processes of digesting and assimilating food were to cease for long periods of time. Forcing knowledge upon one without arousing interest, like giving food when there is no appetite, is likely to produce mental indigestion. Varied and intense interests on the other hand necessarily promote the development of a vigorous mental life.

It is through interesting activity that all of our complex sensory motor, representative and thought processes are related and unified. In constructing a table, making a dress or writing a composition, none of the movements or ideas have any significance except in relation to the attainment of the end, the securing of which satisfies the interest. The same is true of all of our activities. The meaning of a long series of acts, even of

one's whole life, can be understood only in relation to the interest that dominated the activity. Mind and character are therefore moulded by interest. Harmony and unity are attained only when each interest is related to a suitable form of activity and when all interests and activities are related to a few dominant interests, such as those of science, art, philosophy. The most inclusive form of interest that unifies all others is often that of religion. Just in proportion as one has many interests properly related and unified by some higher and dominating interest, is his mental life and character developed and efficient, while the lack of unifying interests means an inconsistent, inefficient character. The subject of interest is therefore of the greatest importance to all educators.

Relation of Interest to Instincts. It is easily understood that the interests of animals are closely related to their instincts. In the case of man, with his numerous and easily modified instincts, the relation is less evident but doubtless is equally close.

It is clearly evident however that a hungry child or man is ready to respond to anything connected with food. This is especially true when there is a considerable interval of time before food is obtained. A starving man's thoughts when awake and his dreams when asleep are as a rule almost wholly concerned with food. It is only when this fundamental instinct is satisfied that he is ready to be interested in other things. Sometimes, however, the higher intellectual interests will for a considerable time prevent one from thinking of food. Fear and anger are also very strong stimuli to interest.

It has often been supposed that interest is proportioned to the amount of feeling being experienced or

anticipated. This is not, however, necessarily the case. The tendency to think and to dream of food and eating, when hungry, is of a strength wholly disproportionate to the pleasure the taste of the food will give. In fact the starving man is likely to devour food so rapidly that he scarcely tastes it. It is also true of fear, sex and other instincts that the feelings experienced do not, of themselves, account for the persistency and intensity of the interest aroused in connection with those instincts.

We are so constructed that to do certain things seems desirable, and memory of former pleasure in those things increases the desirability, but representation of the pleasure or pleasures does not usually add greatly to the *impulse* to act. The child is powerfully impelled to do what he has seen some one else do, the boy to win in a game, the man to secure a wife, a house, or an office, because they are desirable and interesting in themselves, and because they mean the securing of other things that are desirable and interesting, all of which suggest pleasure to be experienced, but do not necessarily involve the representation of pleasure as such. He who dwells upon the pleasure to be felt rather than the end to be gained, is liable to lose interest in everything except himself, and may be led to say, "What is the use of it all?" On the other hand he who represents as attractive many ends and activities and perceives their relations to each other, never lacks for interests.

Primarily, objects and acts are attractive or repugnant because our nature is what it is, or in other words, because our instincts are what they are. Odors, tastes, sounds and sights that are very repugnant to us may be very attractive to animals whose instincts differ from

those of man, and the same is true of activities of various kinds.

The longer the interval between the arousal of an instinctive tendency and its satisfaction, the more chance there is for interest to be awakened. A child is less interested in eating than in preparations to give him food. In man this is the case to a much greater extent than in animals, for he satisfies many of his instincts by indirect means, such as the use of tools. To a considerable extent, mental activity involving interest takes the place in man of objective movements. This is especially true of civilized man, who obtains food, shelter, safety, by such indirect means as engaging in some industry or profession.

Although when fully aroused, the interests associated with the biologically useful instincts are among the most powerful in man as they are in animals, yet in more highly civilized man they are for the most part subordinate to the more intellectual and social interests. For the intellectual life of man it is as important that his ideas shall be in harmony with those of other people as it is for his physical life that he shall react in appropriate ways to his physical environment. There is some physical necessity and a very marked psychical necessity for man to react properly to people and to their customs, emotional states and intellectual beliefs. The social interests are therefore very prominent in man and are associated with all other kinds of interest. Interest in food, clothing and shelter, although based on biological needs, is to a considerable extent dominantly social. We desire not so much what will sustain life, as that kind of food, furniture, clothes, houses, etc., that will favorably impress other people

and give us the feeling of being in social harmony with them.

Æsthetic interests of various kinds, as aroused by form, color and sound, are universal and of considerable strength even in the savage, who even decorates his war club to make it more beautiful. This interest is, however, distinctly one that can reach its fullest development only when it is socially shared with others.

The collective, constructive and expressive instincts as well as those of imitation, play and curiosity are among the most important sources of interest in man and are all, to a considerable extent, concerned with people rather than with things. By means of artificial language, more definite mental states are developed and it is possible to correlate and harmonize more closely one's mental states with those of other persons. This makes possible the development of the higher social and intellectual interests that so continuously dominate in the minds of cultured men.

Even in the case of an infant whose intellectual development has not proceeded very far, the higher interests are dominant the greater portion of the waking time if his bodily wants are kept reasonably satisfied. If interests depended only upon the biologically useful instincts there could be but little development of intellectual interest. Almost from the first, however, a child shows instinctive tendencies that give rise to the higher intellectual interests which are the chief means of his mental development. Just in proportion as these higher interests dominate, does the human soul develop the characteristics that distinguish it from the mind of animals.

Work and Play Interests. The two chief native

forms of interest that are given force by instinctive tendencies are those of work and play. In general, the biologically useful instincts are primarily sources of work interests, since the objects, food, escape, etc. are the ends that must be secured; yet in the young which are protected from the environment, they are also sources of much playful activity. The young animal plays at fighting and at capturing prey before it engages in those activities as serious work, and the child playfully imitates the work of adults. The adaptive, social, æsthetic and other higher instincts are however the primarily important sources of play interests in man. Playful interests may lead to work interests, as when there is a definite attempt to obtain or produce something beautiful or intellectually satisfying.

Work and play interests, although often contrasted, have much in common. They are both natural in the sense that they arise within consciousness as it reacts to its environment, instead of being arbitrarily imposed by some other consciousness. Play is often supposed to be the dominant interest of childhood and work of maturity. As a matter of fact the interests of the young child are not clearly differentiated into those of work and play while the activities of the mature man may combine the two forms of interest. In childhood and youth they are often very sharply contrasted.

Play always implies freedom to do or not to do a certain thing, and also freedom in doing, as regards how it shall be done and how long the activity shall continue. The end, though serving to unify the activities, is in itself of little importance. Work on the other hand involves some limitations of freedom because there is some kind of necessity for doing the thing, a certain time for

doing it and certain ways in which it must be done. The end itself is important while the activity of gaining it is relatively of less significance. The child who is playing at cooking may begin or stop at any time, use whatever materials he pleases, perform the imaginary act of cooking in any way that suits him, and throw away the product when it is finished. In the case of the woman who is actually cooking, there is some kind of necessity that it should be done and at a certain time, and she can use only the proper materials in the right proportions, hence her activities are directed by the end to be gained, and the conditions and the nature of the material with which she is working, while the product is of value in itself.

When a child is using blocks in building a house, especially when he is trying to build a certain style of house, his activity involves some of the characteristics of both work and play. He is free to do it or not, without unpleasant consequences, and he may stop at any time he chooses. The mere movement of the blocks may also be a pleasing form of activity. Thus far his actions have the characteristics of play. In so far as he has an end to be reached in the form of a certain structure or definite style of house which can be made only by selecting and placing the blocks in accordance with that idea, his activity has the characteristic of work, in that it is directed by the end. If the house is to be preserved for some time, the end to be gained is also of some permanent importance, as it usually is in work. This and many other activities of the child, therefore, involve the essential elements of both work and play.

In a similar way an adult cook or carpenter may enjoy the activity leading to a successful result and

freely choose to engage in it and carry it on in the proper way, when there is no necessity in the form of unpleasant consequences requiring the act to be performed. In like manner every occupation of adult life, either manual or mental, may combine the essential elements of work and play. In order that this may be the case, the activity itself must be so related to the natural and acquired tendencies that it is at least not disagreeable, and one must be confident and skillful in carrying it on in the way that will bring the desired result.

Games and sports present other examples of the combination of the characteristics of work and play. In games there is the freedom to begin and stop when one wishes and choice as to what games shall be played, but there are usually some rules in accordance with which the activity must be directed. The pleasure of the game does not consist so much in the separate actions themselves as in their relation to the attainment of some end, usually in competition with some other person or persons. The end attained, however, unlike the end in work activity, has no permanent value in itself.

Sports of various kinds involve the same elements of freedom as do games. Some of the separate activities may be in themselves disagreeable, but when combined with others in reaching some end, such as winning the race or hitting the mark, they may be very enjoyable. If the end has some permanent value and there is some necessity of securing it, the game or sport may be transformed almost completely into work.

Activities known as amusements belong to the more passive form of play interest, the activity usually being aroused and directed by some one else. There is free-

dom to choose any form of movements and no necessity to gain any specific end. The work element is, however, brought in to some extent if the amusement is regarded also as a means of culture, or as a necessary recreation preliminary to success in some other line of work. If one takes some active part in the amusement, as he may do in literary, artistic and scientific lines, the activity may combine the elements of play, amusement and work.

In one's vocation it is possible to combine play and work to a considerable extent. Although one must do something, he may choose his occupation and having acquired skill in pursuing it and become habituated to certain hours and places of working, he will feel no limitation of his freedom in doing the right thing, at the right time, in the right way, and he may enjoy the activity of doing it as much or more than the permanent results that he secures.

Work and play interests are not only often combined in a harmonious way, but they naturally alternate and each by contrast increases the interest in the other. While working, the thought of play to follow adds intensity to the interest because it presents a motive and suggests a contrast. The free play is enjoyed after the directed effort of work and one is refreshed for vigorous work again. This rhythmic relation of the two types of activity is easily established at an early age and may well be preserved all through life. Only in the proper combination and alternation of play and work interests can developing consciousness find its continuous equilibrium and its completest satisfaction. The child never works so vigorously as when a chance to play is the reward and never enjoys play so much as when it comes as a relief and reward after work.

The same is true of men. Most of them work that they may indulge their play impulses in some form or other, in games, sports, music, the theatre, art, literature, social activity and personal *penchants* of whatever kind. The individual and the race that have no such desires for play and amusement are usually shiftless through lack of motive. There is no reason why they should work steadily or provide for the future so long as they meet the actual necessities of life as they come. Civilization differs from savagery largely in the fact that civilized man has many forms of play and amusement that serve as motives for work.

The importance of play and amusement is increasing with civilization because the hours of necessary labor are becoming shorter and specialization in industries gives exercise to only a few powers. Hence playful exercises are needed both as a means of recreation and as a means of more complete development.

Work interest is associated with ends that are regarded as necessary to the physical or mental life. Hence, however useful work interests may be in making an individual an efficient member of society, they are not the primary influence in developing the personal self. It is in play interest that the selective function of consciousness is at its maximum. In general, work interests are forced upon one by circumstances, while play interests represent free choices of the self. Work interests help to mould the personality in accordance with the surroundings in which one is placed, while play interests develop it from within according to its own nature. Work interests lead us to make a living while play interests enable us to live more fully the life demanded by our own nature. Work interests are there-

fore primarily valuable in preparing for one's vocation, and play interests, in acquiring culture and general power.

Varieties of Work Interest. In all work interest there is some kind of necessity for attaining the end toward which the effort is directed. In animals this interest is usually comparatively transient, since they use only the more direct means of obtaining the necessary ends of food, safety, etc. In man it is very much prolonged, because through the use of tools and machinery and the exchange of goods very indirect means of securing ends are used.

In natural work interest the end to be reached and the means by which it is to be secured are clearly related in consciousness. The means used are not arbitrarily chosen, but seem to be determined by the nature of things. In more primitive conditions of life the means are determined by the laws of nature, and in order to attain any given end, such as food of a certain kind, one must conform to the laws of nature in going to places where such food is found, taking the necessary means of capturing it or of raising it by planting and cultivating the ground.

In more highly civilized society the laws of nature are more fully known and utilized, yet the ordinary worker who is running a machine has his actions determined, not by his knowledge of the laws of nature, but by his knowledge of how the machine works. He obtains the means of purchasing the food that has been secured by others by manipulating the machine in accordance with the way it has been made to work. He may also find that he can secure better rewards for his labor by acting in such ways as will secure the favor of those

with and for whom he is working. Much of what the modern workman does, therefore, in laboring to secure the necessities of life is not clearly recognized as a means which in the nature of things must be used to secure the ends for which he is working.

If he studies the machine with which he is working so as to make it do the most effective work possible, and if his rewards are felt to be proportionate to the efficiency of his work, he has a genuine work interest similar to that of the more primitive hunter, agriculturist or hand worker. If, on the other hand, he makes no study of the machine on which he is working, but merely does as he is told and tries to keep the favor of the boss, and by that means, or through his union, to get as large wages as possible, he has very little genuine work interest, because he is not directed by a feeling of natural relation between the end desired and the means used.

The boy who is selling papers has a genuine work interest in the calculations necessary in his business. When, however, he works problems in school whose relation to any end that he wishes to gain is not perceived by him, he has not the same sort of genuine work interest in the calculations. If he believes that working such problems will help him to secure ends that he will wish to attain later in life, he may have a genuine work interest in the problem, although it is likely to be less intense than when he has some more immediate end to be secured.

He may wish to solve a problem because solving it may be a means of gaining a reward or avoiding a punishment. In that case the interest is not primarily in the mathematical operations, but in securing the reward or avoiding the punishment. If, however, he has to study out the method of solving the problem in order

to secure a desired result, his activities are directed in the same way as they would be if the solution of the problem were the motive. If, however, he is told what to do and how to do it and avoids punishment or secures reward by following directions, he may have no clear perception of the relation of the operations gone through to the answer obtained. If he is not told what to do, but can get suggestions of how to proceed from companions or from the teacher's voice or expression of face, or from the answer in the book, he may still be able to get the answer without perceiving the mathematical relations involved, and he has of course no real mathematical interest.

If he is offered a prize for certain attainments in mathematical ability, which can be secured only by a thorough understanding of the operations involved, he has an interest that is genuine so far as the mathematical calculations are concerned, but the reward is probably artificial in the sense that it is specially given rather than one that can usually be secured by the exercise of such ability.

One who simply follows directions as does a slave, without any appreciation of the relation of what he is doing to the results that will follow, is not actuated by any of the essential characteristics of a genuine work interest. His activities are not self-determined by a consciousness of the relation of those activities to desired ends, but are outwardly determined by the directions of another in order to obtain ends that are also under the control of some one else. It is undoubtedly true that this is the condition of a great many children in school. They are doing what they are told to do without any clear perception of the relation of what they

are doing to any end, either immediate or remote, except that of getting along comfortably in school.

A child who is very anxious to please his teacher will do anything she wants him to do with numbers, but he is not therefore necessarily interested in mathematical work in the sense of trying to find the means of getting results that are useful. He is often studying what will please the teacher rather than the necessary truths of mathematics.

Where the marking system is used he may care for the marks as an evidence of the approval of the teacher and as a means of securing the approval of parents and perhaps the envy of other children and as a condition for promotion to another grade, or even to another school. If he has no other reason than the mark for succeeding, he will use the means that are easiest to him for securing that mark. These means involve to a large extent a knowledge of the peculiarities of the teacher. There may be no interest in the operations themselves except as a means to the end of securing marks when all other means fail. A student working for marks is therefore often like a contractor who studies politicians and political methods in order to get profitable contracts, instead of studying his business in order to do his work most efficiently.

We see, therefore, that there are many varieties of work interest of varying degrees of genuineness and completeness. It is evident that work interest is of the greatest value when the end to be gained is one conforming to the higher phases of man's nature, is one made necessary by the laws of the natural and human environment in which one is placed or is to live in the future, and when the relations between the end and the

means are also fundamental and are discovered or at least clearly perceived by the individual who is working. Such genuine work interest not only prepares one for the greatest efficiency in the higher forms of industry and professional practice in the future, but also promotes the most effective and harmonious development of the personality at the time.

Associated and Transferred Interests. In the purely instinctive actions of animals there are more or less immediate and specifically defined movements by which the instinctive tendencies are manifested. In man these movements are less definitely defined and he has an infinite number of indirect means of satisfying many of the instincts. There are thousands of different kinds of activity that may become interesting to man because they are means of obtaining food, shelter, protection and enjoyment. The only thing necessary to arouse a work interest in any form of activity is to perceive that such activity is a means to the satisfaction of an instinctive need.

A work interest in any form of activity, established by persistent practice, may result in the activity itself becoming pleasurable and interesting. If one's thought becomes occupied more with the activity itself than with the permanent value of the result to be obtained, the feelings associated with it and the stimulus to such activity become more playful in character. To many men business finally becomes a sort of a game in which the activity of doing and succeeding is enjoyed more than the results in the form of wealth and what it may bring. In a similar way the play interest may emerge in every occupation and in all forms of intellectual effort.

Whenever an interest has been developed in any occupation, activity, or knowledge, interest in any other occupation or set of facts may be roused by showing its relation to those in which there is already interest. In this way one who is interested in machines may be led to an interest in mathematics, when he finds that he cannot reach the highest success without a more complete knowledge of mathematical operations. In a similar way one who is interested in politics may become interested in the sciences or biology and physiology as when legislation is demanded regarding agriculture and health.

Again, any activity, whatever the motive for engaging in it in the first place and whether it is naturally agreeable or not, may become so if there are uniformly pleasant associations connected with carrying it on and if the pleasure of success or other reward always results from it. The pleasure associated with the activity, perhaps in an incidental or arbitrary way, is thus transferred to the activity itself. Practice also gives a freedom in action that prepares the way for a more specific play interest in what is being done. It is therefore possible to develop an interest in almost any form of activity if it is carried on under pleasant associations and is so planned that it is neither too easy nor too difficult.

There is very little natural basis for interest in such a subject as Latin although some natural curiosity may be excited in the beginning of the study. It is an undoubted fact, however, that a very intense and permanent interest in Latin has been developed in many individuals, often without any appeal to natural curiosity. Under effective teaching a pupil succeeds in learning the lesson assigned him and is each day able to

use the results of his previous lessons in the new exercises that he undertakes. The otherwise uninteresting process is enlivened by competition with his mates, by the approval of the teacher and the pleasure of success. These are in part transferred to the act of learning and as he acquires skill in the application of the knowledge gained, something of a play interest in studying and translating is developed.

A permanent interest of this sort can, however, rarely be developed without many years of study. The old time student of Latin who continued to read it all his life because of the pleasure it gave him has now become comparatively rare. In the case of the modern high school and college student, Latin is not pursued long enough and exclusively enough to develop such a permanent interest. In few subjects can one more effectively get the consciousness of successful effort than in Latin when the lessons are properly arranged, but there are many other subjects more closely related to things in which there is already an interest and that seem more directly related to practical success in many occupations. Comparatively few present day students therefore develop a permanent interest in Latin.

Mathematics have all the advantages of Latin in an increased degree, as regards the arrangement of the work so that what has been previously learned can be used and success attained. They have also the advantage of being associated with many interesting activities even before the child enters school. The early work in numbers has not usually been arranged as well as it might be, so that what is learned each day can be used the next day in some new exercise, yet a play interest in mathematical calculations is very frequently de-

veloped. An unnecessary amount of formal drill has been given in learning number combinations, instead of incidental drill while doing new things. For example, after learning to combine small numbers, drill may be obtained by adding and multiplying tens, hundreds and thousands mentally: drill in the multiplication and addition tables, by written multiplication with two or more digits; and in division, multiplication and subtraction tables by written division examples, etc. The formal drill has been made interesting by various devices transforming it into a game involving competition, which is often effective, but which does not so often develop a genuine mathematical interest as arranging the work in such a way that what is known can continually be used in new operations that are just difficult enough to give the keen pleasure of successful effort. We have perhaps now not as much as formerly youths and men who have the genuine play interest in mathematical calculations, which leads them to solve problems for the pleasure of it as others solve puzzles.

Artificial and Natural Interests. The term artificial interest implies that it has come into existence by some special act of a person rather than in the natural course of events. There is also the implication that it lacks the essential or permanent characteristics of the real thing. The interest aroused through the ordinary association with things and people and which under ordinary circumstances is self-perpetuating, may be regarded as genuine, natural interest. It is difficult, however, to distinguish between the interests arising from ordinary associations with people and those intentionally produced for a purpose. Since interests are so readily transferred and may then become self-perpetuating, it is exceedingly

difficult to draw the line between artificial and genuine interests. In general, however, only pure work interests, pure play interests or combinations of the two that arise and continue under ordinary conditions are genuine interests, while all others are wholly or partially artificial.

It has been held that interests in the school must in the nature of the case be at first largely artificial. The child is supposed to be preparing for adult life, but he is not surrounded by the conditions of adult life and has not within himself the natural impulses of adults. It is assumed therefore that interest in adult activities must be artificially stimulated. It may be questioned in the first place whether the child cannot in a large measure better be prepared for adult life by living most completely the life of a child and developing in a natural way the interests of childhood, later youth and manhood, as the conditions and instinctive tendencies change.

Passing this question, however, we may consider, on the supposition that the child must engage in some activities suited to adult life, whether he must necessarily be stimulated to do so by arousing artificial interests exclusively. We note in the first place that children show a very strong tendency to notice what adults do and to imitate every form of activity in which they engage. This interest which is at first of an entirely playful character may readily be cultivated in many of the school subjects.

At a later stage children are interested not only in playfully imitating acts by actual movements or in imaginative play, but they become more interested in a serious way as they think of what they are to do when they become men. This natural work interest, though

the end is rather remote, may have considerable influence especially as children approach puberty.

Again, children spontaneously undertake many forms of construction and may be led to see that in order to attain their end successfully they must learn or practice a number of things that are ordinarily given in the special studies in school. Children are also naturally curious and as they become familiar with the things and people of their own environment they readily become interested in things and people to be found in other places and ages. Hence there is a natural basis for interest in geography, history and the sciences.

There are also natural interests in color, rhythm, sentiment and humor, that serve as a basis for interest in art, nature and literature. In order to gratify these various interests, artistic, constructive and literary, the child finds it necessary to be interested to a greater or less extent in the more formal subjects of reading, writing and arithmetic.

If the elements of knowledge and skill required for adult life are presented to children at the time and in a manner and order best suited to arouse their natural play and work interest, comparatively little will need to be done in the way of artificially arousing interest in the school subjects, beyond having the work done under pleasant associations.

When the attempt is made to arouse artificial interest it should be done under the following limitations. The interest should be as little artificial as possible and should be transformed into a genuine interest that will be self-perpetuating under the usual conditions of life. The approval of teachers, parents and others, of effort in any line is less artificial than the giving of a mark

or of a degree. Approval of others always remains as a natural stimulus to effort in any line, while marks are given only under special conditions and are a stimulus not so much because they indicate approval, as because they are a means to promotion or are a special kind of evidence of successful competition. Both personal approval and marks give associative rather than intrinsic interest in the subjects themselves and the activities involved, but personal approval, because of its naturalness and long continuance, is more likely to result in the transference of interest to the activities and ends involved.

In so far as subjects are being pursued for practical purposes such as are involved in the more mechanical processes carried on under the direction of another, artificial interests will serve as well as genuine natural interests, providing they can be made sufficiently strong to result in as accurate and permanent knowledge or skill. The methods of arousing artificial interests may more easily be formulated and carried into execution than those for appealing to natural interests and developing them into genuine permanent interests. By depending upon artificial interests it is possible to have a regular program of work, while in appealing to natural interest the impulses prominent in the individual at the time must continually be considered and the work adapted to his impulses instead of his being required to conform to the schedule in his work. So far as practical education is concerned the ordinary teacher can more surely cause the child to acquire the necessary knowledge and skill partly or wholly through arousing artificial interests than by depending chiefly upon natural interests. The highly skilled teacher on the other hand

may secure better results in a shorter time by depending almost wholly upon genuine interest naturally aroused.

In so far as the purpose of education is to develop the personality of the individual, artificial interests are far less effective than the more natural and genuine ones. A certain type of character suited to the nation and class to which one belongs may be developed in a majority of people by means of artificial interest, and outward control may be continued until corresponding modes of acting and thinking become well established as habits. Some individuals are thus made fairly good members of society who would perhaps otherwise be disturbing elements, but on the other hand the individuality of many persons is thus suppressed so that they fall far short of realizing their highest possibilities. The most effectual development of individuality is possible only when it takes place under the influence of interests arising from one's own natural impulses and in accordance with interests and ideals which he has adopted as his own.

A distinction should be made between interest in an end and in the use of certain means for securing the end. Arbitrary assignment of tasks with freedom as to how they shall be done is often less objectionable than continual direction as to when and how a task begun under the impulse of some necessity or desire shall be performed. In the former case one is somewhat in the situation of the ordinary worker of whom certain results are required and whose intelligence and industry must be used in securing them, while the one who desires and depends upon some one else to direct him so his desires will be realized, is not developing the best characteris-

tics of a good worker. When there is no interest in the end and continual direction as to what to do and when, as is often the case in school, mechanical habits may be developed but not intelligence.

Utilization and Correlation of Interests. One of the chief problems for educators who depend chiefly upon artificial interests is to find means of developing and prolonging such interests. In solving this problem they are necessarily concerned with rewards and punishments as school incentives and with the arrangement of subjects and topics in such a way that the associated and artificial interests may be transformed into more genuine and permanent interests.

Those on the other hand who believe more in utilizing natural interests are concerned with the problem of the relative strength of the various instinctive tendencies and the arrangement of work and play activities so as to utilize to the best advantage the interests that are already naturally strong. They seek to utilize the currents of a child's own nature and the winds of social influence, while the believers in artificial interests are manufacturing devices for driving the educational vessel in the desired direction.

In selecting educative material the one who depends chiefly upon artificial interests selects that which he believes will be most valuable to the adult and tries to present it in a form and an order that will make it possible for the child to acquire an interest in it and develop the necessary knowledge and skill.

The believer in natural interests on the other hand considers not so much what will be of value to the adult as what will be of interest to the child at the present time and will lead him to engage in vigorous activity in

ways that will promote full and harmonious development, and thus indirectly prepare him for success in adult activities.

With educators of both views the problem of correlation is an important one. With one it is a problem of the correlation of subjects while with the other it is the correlation of interests and activities. Both recognize quite fully that isolated knowledge and skill cannot produce a strong and effective individual. The more completely all that one knows and can do is related and unified the more highly developed and efficient the personality.

Those who attempt to correlate subjects find the task one of great and increasing difficulty. More and more subjects are being introduced into the curriculum, and if each is organized in a systematic way as is usually thought necessary and as is really helpful in developing an acquired interest in the subject, it is necessary to a considerable extent to isolate the subject matter and arrange it without reference to other subjects. After keeping each subject separate from the others for a considerable time, it is difficult to bring them into proper relation because of the lack of a common unifying principle.

To those who believe in the necessity of depending upon natural interest the problem is scarcely at all one of arranging facts and truths to be learned, but one of finding means of relating play and work activities and their dominating interests to each other. This is accomplished by getting pupils interested in doing things that will require a variety of activities properly related to each other in order to satisfy the interest.

In order that various interests and activities may be

correlated, it is only necessary that more and broader interests shall be aroused so that the child shall feel that what he is now doing is a means to doing something else and that to something else, and so on until each thing that he does is related to his highest ambitions and ideals. Such correlation is a genuine correlation within the consciousness of the individual and favors a complete unification of his personality.

The natural relation of work and play interests similar to that which the teacher should depend upon is illustrated by the following incidents. A boy a little over four, after having a hammer and saw, heard of something that would bore holes and worked to get money to buy a brace and bit. Later, hearing that a chisel could be used to make the holes square he worked at hemming wash cloths for money to get one. With the chisel he started to dig a cellar for a house. Learning that a pick would be needed to get stones out he talked of earning money to buy one. Later he proposed to make a little factory for making things. Afterwards with some help he made a representation of a saw-mill with notched paste-board for a saw and strips of paper for a belt. Later he was much interested in using a wooden pick and made a box of laths to keep his tools in.

This interest in tools continued. At nine he wished a play house and worked in the garden and at various chores to get money to buy material to put with some given him to construct the house. He then spent a good many hours in building the house, learning much incidentally of materials and how to use them. A year or two later he worked to earn money for materials and then spent a good deal of time constructing apparatus in the attic for games and gymnastics. Desiring to be-

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come a good ball player he spent considerable time in practicing pitching, catching and batting when not engaged in a game. A little girl practiced certain stitches in order that she might make a satisfactory dress for a doll and again practiced painting and drawing in order to make a Christmas present for her mother.

The doctrine of interest properly understood does not mean that a child shall never do anything except what he wishes to do, in the sense of leaving it to chance as to what wishes shall be excited in his mind. The teacher should bring to the child, in actual or representative form, any sort of environment that she sees fit and in this way excite the desire to reach ends and stimulate him to devise means for reaching them. On the negative side she should shield the child from any kind of environment that will surely be injurious to him at the time, while on the positive side she should present a great variety of environment, especially that which she thinks will be of the most use to him. According to the doctrine of interest, the environment that is best suited to develop the child's nature will excite the feeling of need leading to active, interesting effort. Activity thus excited is likely to produce a more normal development of the individual than any that can be produced under the authoritative direction of another person, without regard to the interest felt by the individual. Not only should the educator present good and varied educative material as an environment to which the child is to react, but she should present it, as far as possible, at a time when the child is most sensitive to that kind of environment and most ready to engage in the form of activity required.

Here again the value of the material to be presented

at a given age cannot be determined without reference to the effect that it produces upon the individual. If it excites his interest and leads to active effort it is probably suited to his stage of development, though the teacher might otherwise think it better suited to an older or a younger person.

Growing confidence in this doctrine of interest has led to an increase in the use of the elective system in colleges and high schools and has permitted a good deal of choice of reading on the part of younger children. In practice the doctrine has not worked perfectly, partly because education is not in general carried on according to that doctrine. Artificial interests are made prominent by the methods of teaching, examinations, marking, promotion and graduation so that the choice of subjects and the amount of work done in them are determined not so much by feelings of intellectual needs to be satisfied as by the artificial needs of satisfying the teacher from day to day and securing promotions and diplomas.

In special education preparatory to a particular occupation, it may very properly be maintained that the subjects of study and the methods of pursuing them can better be prescribed by the teacher than chosen by the pupil. The pupil having decided what he wishes to do, may avoid much useless effort and waste of time by working toward the end under the direction of those who are familiar with the most effective ways of reaching that end. In general education on the other hand, where the end is the development of the individual, there is good ground for taking the opposite view and saying that his development is more effectively secured by study of that which appeals to him the most, than it is by following any

fixed course of study prescribed by some one else. It is in the field of general education that there is least occasion for exciting artificial interest and least possibility of measuring progress, hence in that field there is least excuse for the giving of marks and degrees, especially when they are used not merely to induce the pupil to do certain things, but to do them in certain ways.

Development of Interest. As already indicated, play activity in any line generally precedes work interest when there is no immediate necessity for doing. Words, figures and other educative material of the school room may become objects of play just as are dolls, blocks, cards, etc., before the child goes to school. The play activity takes on more and more the characteristics of work as the child attempts more and more to produce certain combinations or results of more permanent value. On the other hand, when natural or artificial necessity induces one to engage in any form of activity until ease and facility are attained, the work activity may gradually become playful in character.

The best results in both cases are obtained, not by trying to mix work and play, but by making the play so interesting that it develops the work characteristic and by making the work so effective that freedom and success result. The motive should in each case be either a lively play interest in doing or a strong work interest in the results to be obtained. One motive or the other should dominate except in very young children until the character of the activity has so far changed that the other motive naturally takes its place. The attempt to mix the two motives is likely to result in "soft pedagogy" on the part of the teacher and dilettanteism on the part

of the learner. The play interest may be utilized in getting a child to do what will be useful to him but usefulness cannot be the child's motive for playing. When the child is playing, play interest must dominate and work interest be incidental, and when working, work interest must dominate and play interest be incidental. Work interest may lead to skill which exercised in a playful way will give pleasure but if one is working he must be directed by the work interest toward using the best means to the end, instead of by the idea of doing what is most pleasing. The desire to play may be one of the strongest motives for undertaking and finishing a piece of work, but the desire for certain results of permanent value cannot easily be used profitably as a stimulus to play of any kind. Although a child may, himself, often be actuated by a combined work and play interest, the attempt of some one else to get a child to act from both work and play interest is likely to fail. Unless the one type of interest dominates and the other is incidental there is danger that one interest will neutralize the other or else that they will alternate and diminish in intensity without giving satisfaction leading to the attainment of an end or producing any desirable development of personality.

The child imitates the actions of those surrounding him in a purely playful way, being satisfied with the performance of the activity without reference to any ends that may be gained by it. The countless imitations of sounds and gestures by children are of this type. In the case of imitation of the activities of older people, such as writing, sewing, cooking, keeping house, and in later stages, in the activities of making collections and constructing objects as other people do, the

fact of acting in harmony with other people or being equal to or superior to them contributes to the pleasure of the activity. In still later stages of development, imitating other people in the sense of following the fashion, loses most of its playful character, the end gained becoming the most prominent thing.

In the child's first imitative acts of talking, counting and constructing, he is interested chiefly in the performance of the act as a play, but soon he desires to obtain the end that may be gained by means of talking, writing, counting and constructing. He then observes closely how those acts are performed by others and repeats them, not because of the pleasure of the activity, but in order that he may secure the end to which they are the means. The tendency to imitate is then dominated by the work interest of results to be secured, and the child is learning the great lesson of life that in order to secure ends the means appropriate to the securing of those ends must be used. This is the essential characteristic of all work activity. If he attains great facility in the use of means for the attainment of ends he may enjoy the process of gaining ends as much or more than the ends themselves. There is therefore often a later stage of development similar to the early undifferentiated stage, in which activities are performed under the stimulus of both work and play interest.

Again, the activity of imitation may itself become an end as in the case of one who makes a business of mimicry. The same is true of many other forms of activity, such as those of athletes and acrobats. What was at one time a form of playful activity has become not merely a means to an end, but is to a considerable extent an end in itself, the aim being to secure the highest

degree of skill possible. The same is true of intellectual and emotional activities, such as are manifested in curiosity and in the search after truth and in the æsthetic instinct and the desire to enjoy and produce the beautiful.

All the early activities, especially those of the playful kind, are to a large extent varied and disconnected, the same simple sound or motion being repeated over and over. In work activity of even the simplest forms there is at least a short series of acts leading to the securing of the end. In play activity the series may be very short indeed, consisting perhaps of nothing more than moving the hand and getting as a result a tactile or auditory sensation. As work and play interest develop, activities are arranged in a series to a greater and greater extent. Movements are no longer pleasurable in themselves except when made in a rhythmical way, or when two or more forms alternate and lead to some kind of climax. Since in work activity the different acts must occur in a certain order and be performed in a definite way in order that the end may be secured, both work and play interests therefore depend not upon any one portion of the series, but upon the relation of part to part and to the result as a whole.

The natural tendencies of the child acting under the stimulus of either work or play interest will not necessarily produce the kind of arrangement of activities most conducive to success and satisfaction. The child has to learn how to arrange the series of activities in order to get the end or get the most satisfaction out of the play. In other words he needs suggestions or directions to help him in learning to play as well as in learning to work. These suggestions may be supplied most easily by furnishing examples for imitation, but as child-

ren grow older, may be given to a greater extent by means of words. Games, with definite rules, have been invented because they organize natural activities into a series that is more interesting than any undirected or unorganized form of activity.

With increase in age, interest prompts less to sensory motor activity and more to representative and conceptual activity. With the development of imagination and thought, it is also possible to unify a much greater variety of activities and to connect the activities not only of one moment with those of the next moment, but also those of the day and the year with those of other days and years. The child's interests are transitory and variable, but as he becomes older, these varied interests are more and more connected with each other in both his work and play, under the dominance of some more general and inclusive interest which is satisfied by this more complex grouping of activities.

So far as no educative influence is consciously brought to bear upon the child, the development of his interest will be determined by the development of his native tendencies and by the material and social environment in which he lives. The educator who attempts to direct the development of interest must take into account those two factors and by bringing to the child, in an indirect way, any intellectual environment that he chooses, strengthen desirable interests already existing and develop new lines of interest. Definite tasks may also be assigned and motives for doing them aroused so that he will perform them intelligently and effectively, but there is little reason for requiring the blind following of directions. In order that the knowledge gained by the child shall be organized in an effec-

tive way it is necessary that any given kind of interest shall be dominant for a sufficient period of time to organize more or less permanently a considerable body of knowledge and experience.

In order that development shall not be narrow and that a large number of ideas and activities shall be acquired and organized it is necessary that a variety of interests shall be concerned in organizing them, but that there may be harmony in the development it is necessary that there shall be broad inclusive interests harmonizing the more special lines of activity.

The theory of culture epochs affirms that the material best suited to arouse interest at each age may be determined by studying the development of the race and finding what activities were prominent in the successive stages of development, and what kind of literature was produced in each stage, and then using these forms of activity and literature in the same order in educating the child. This theory supposes that there is a close correspondence between the mental development of the race and the mental development of an individual and that the stages of development of the race are better known than are those of the child. We have shown in a previous volume, "Genetic Psychology," that there is little correspondence in the physical development of the individual after birth and that of the race and that there is still less reason for believing that there is any close correspondence in the mental development of the individual and the race. We have also shown that environment becomes a more and more important factor as development becomes more intellectual and that there is very little correspondence between the physical, social and psychical environment

of the child of to-day and the adult in past ages. Almost the only chance for correspondence is in the order in which the instinctive tendencies develop. We know that the inner factors in individual and race development cannot show a very close correspondence when even such an important instinct as that of sex does not appear in the individual to any considerable degree until he approaches maturity, although it must have been prominent in even the earliest stages of the development of the race.

Another and better basis for determining the kind of culture material to be used at different stages of development is suggested by modern studies of children in which observations and experiments are made to determine what interests are likely to be dominant at each stage of development, and then materials may be presented that will give opportunity for satisfying those interests.

Although the theory of culture epochs cannot be accepted, yet it has proven of considerable value, both to child-study and to education. There is some similarity necessarily existing in all development from a simple to a more complex state and in some instances the stages of development in the race are more easily seen than they are in the child. Having been seen in the race they suggest observations to be made upon children. Thus the concreteness of the ideas of primitive people is closely paralleled in the case of the child. Again, on the educational side the theory has been of great value because it has suggested kinds of activities and ideas to present to the child that are different from those actually surrounding him and different from any that may be found at the present time.

The mere fact that they are different makes them valuable as a means of arousing new and varied interest. Besides this they are valuable because they direct the child's attention to fundamental human activities and to significant aspects of nature's forces to which his attention is not called by his present material and social surroundings.

A study of the life of early man and an imitation of his activities in a simpler environment have therefore a value, not only because of their new and varied character, but also because they call forth reactions that are fundamental in their character. As a means of general education such culture materials are of great value. They should not, however, be the exclusive materials used. It is necessary for the general development of the child and also in fitting him for a special sphere in life that he shall be familiar with the present environment and the modern modes of reacting to it.

The study of the life of early man and the imitation of his activities perform the same service for the young child that the study of history does for an older child. Its value is chiefly cultural and only incidentally practical. The study of the present environment and activities of men may sometimes be made equally cultural and far more practical. One who has engaged in a variety of occupations and made himself familiar with others, may have gained cultural appreciation of the work and achievements of men of his own time that is equal in kind and amount to the culture obtained from the study of the language, history and literature of the people of other times.

The test of the value of any study is not however to be found either in racial history, or in general truths

about children of a certain age, but in the past history and the present interest of the individual child. The scientific agriculturist now realizes that no matter how much nutritive material of the kind required by corn or potatoes, or whatever he wishes to raise, there may be in the soil, the plants will not thrive unless the nutritive material is soluble and in a condition to be assimilated by the plant. In a similar way the scientific educator is beginning to realize that however rich in the elements of culture a subject or course of study may be, the individual will thrive mentally in taking it, only in proportion as he is interested. Culture material that is rich and nutritious to an adult may be like sand and gravel to the child. The problem for the educator, like that for the nurse, is not to find what is rich in food value but to supply a variety of material in a form that the child will take and assimilate. The best test of the educative value of what is presented is the degree of interest excited, as indicated by vigorous, continued activity.

Although the educator needs to provide material suited to arouse various interests he should not try merely to excite empirical interest by new material, but should seek to arouse the more permanent relational interest that is based on what is already known. This does not mean that attention shall be turned toward the familiar with the view of making it an object of study. There is nothing more difficult and uninteresting to a child than to try to study and describe familiar objects and processes. To arouse interest something that calls for the use of what is familiar must be presented. Teachers have often made the mistake of trying to have children consciously formulate the familiar instead of

giving them opportunity to explain or do something new by means of something that is already known. The familiar may not have been clearly defined in consciousness until there was occasion for its conscious use. Interest in any line may therefore be developed by giving occasion to use knowledge and skill as fast as it is acquired and thus to add to the store of knowledge and to the possibilities of interest.

EXERCISES

1. How far is your liking for your place of residence determined by your interests? Could you radically change its agreeableness or disagreeableness by a change in your interests?

2. Give an example of temporary and one of permanent interest. Illustrate how interest ceases for the time when the ideas concerned are satisfactorily related.

3. Give examples of children who were not interested in school work, but were found to be much interested in something else.

4. Illustrate how interest directs, unifies and gives meaning to acts by describing how some interest controlled some of your acts during a long period.

5. Illustrate the relation of interest to one or more instincts. Show how interest in man is dependent upon instinctive interests of both a higher and lower kind.

6. A girl who was putting clothes in a wringer varied the amount put in at a time so that the boy turning it was sometimes stopped and sometimes moved with a jerk. Was her action dominated by work or play interest? Give another illustration of the dominance of one of these interests.

7. Name some occupation that to you involves both work and play interest. Should a teacher have a play interest in her work?

8. Give examples of interest in a subject aroused (a) by

liking for the teacher, (b) by the wish for good marks, (c) by discovering the relation of the subject to something already interesting.

9. Do those who study literature in school usually continue to be interested in it after school days? Is the interest in drawing in school usually natural or artificial? How do you judge of its naturalness? What study or interest has had most influence on your life? How did it arise?

10. What would be the effect of doing away with all degrees and marks? Did the Greeks, when at their best, give marks and degrees? If occupational and natural cultural interests only were appealed to would students in colleges and high schools study? Would grammar school pupils?

11. Give the results of your experience with games in connection with school subjects, also of your experience in directing games and plays.

12. Discuss the relative value of the study and practice by children of primitive and present day industries.

PART II

STAGES OF DEVELOPMENT

CHAPTER III

GENERAL DESCRIPTION

Need for Distinguishing Stages. In human beings processes of development are clearly present for a quarter of a century. The differences between the child of a day and a man of twenty-five years are very great. If the processes of development were absolutely uniform, the condition and needs of an individual at any age between the two named could be computed mathematically and there would be less occasion for discussing stages of development. Superficial observation, however, shows that there are times at which development is more rapid than at others. More careful scientific studies prove that this is true to a much greater extent than had been suspected. It may now be safely asserted that variability in the rate of development is common and uniformity rare. Just as nearly all streams move now rapidly and now slowly, so do the developmental processes as the individual is raised to higher stages of organization.

Although changes are continuous, retardation and acceleration are to be noted in all lines. These changes in rate of development, although influenced by external conditions, are determined to a considerable extent by inner tendencies. No comprehensive knowledge of the genesis of mind and character can be obtained without studying these variations, and it is highly desirable that the stages should be distinguished. It is important that they should be known, because there is good reason for

believing that whenever development is proceeding rapidly, changes in the direction of that development may be most easily produced by means of external influences. There is also reason for believing that if at the time a certain kind of development usually takes place conditions are unfavorable or opposed to such development, either permanent arrest of development in that line is likely to result or the suppressed tendency may appear at a later stage and produce characteristics that are out of harmony with those that are then present.

The sciences of biology, physiology and psychology all support the view that each stage of development is preparatory to those that are to follow and that any disturbance of development at any period is likely to affect the final result. This is most strikingly shown in biology, as for example in the case of insects where injury or unfavorable conditions during the larval stage result in an imperfect form of insect. To be a perfect butterfly it is necessary to first be a perfect caterpillar, and to be an ideal man the child characteristics must first be well developed.

From the standpoint of the educator it is especially important, therefore, that the stages of development should be known. It is not sufficient that he shall know what the child is, and what the man ought to be, but he should know the general tendency of development in children of a given age, in order that he may intelligently make the conditions favorable and direct each child's activities in accordance with all the desirable tendencies that are prominent at the time.

Difficulties of Distinguishing the Stages. Any one who has attempted to trace carefully the growth and development of a single plant, knows that the diffi-

culties of distinguishing and describing the changes as they take place are considerable. He cannot see the plant grow, but if he looks at proper intervals, he can readily perceive that it has changed. Although the kind and rate of change vary, it is difficult to describe and definitely specify the various stages. These difficulties are greatly increased when human beings are studied. This is partly because of the fact that the changes continue through such a long period of time. Where a fraction of a year might suffice for determining the chief stages of development in a bean, a score of years would be required in the case of a human being.

The difficulties are also greater in the case of man than in that of plants because he is a much more complex being. The development of mind is also much more subject to outer influences than is the development of plants. Although the rate of development of plants is greatly influenced by surroundings, their form is everywhere nearly the same for each individual of a species, while in the case of human minds, the general type is largely determined by human influences. It is therefore always difficult to tell whether the retardations and accelerations of development in any individual are due to outer influences or to inner tendencies and equally difficult to tell to what extent the peculiar types of individual character are the result of outer influences.

It is necessary to distinguish to some extent between inner laws of development and the influence of outer conditions in order to mark out stages of development that will prove true for more than one kind of environment. This cannot easily be done, and doubtless the descriptions in the following chapters best fit the children of America.

Another difficulty that makes the task almost impossible of complete solution is the fact that the accelerations and retardations in different lines do not coincide. It is difficult to clearly demonstrate this in mental development, because accurate measurements of mental powers are as yet impossible, yet it is very evident to the interested observer of children.

In physical development, growth, as proved by many careful measurements, is far from uniform. The period of most rapid growth in height is a period of slow growth in thickness of body and limb; the period of rapid growth of limbs is not the same as that for the body, nor do the heart, lungs, and brain grow at the same rate at the same time.

To describe the stages of development in one line such as physical growth, language or memory, difficult as it is, presents a far less complex problem than the attempt to indicate the most striking stages of development of the child as a whole. The ages at which development in these various lines begins and culminates are so different that a division that shows clearly the development in one line obscures that in another. It is necessary therefore to decide which kind of development is most important and most closely correlated with others.

Basis of Classification. In seeking a basis for distinguishing the stages of mental development in human beings, it will be best to choose the characteristics that most clearly and fundamentally distinguish man mentally from the lower animals. These are to be found in his social tendencies and his susceptibility to social influences. A dog or other animal brought up without association with others of its kind, can scarcely be distinguished from other animals of its species except by

an expert in animal behavior. A human being on the contrary, brought to the age of maturity without human associations, would at once attract the attention of even the most casual observer. A man becomes a human being mentally, chiefly through association with other human beings, rather than by reaction to things only. Without human association a child would be more animal than human in his characteristics.

The most fruitful basis, therefore, for distinguishing the different stages of human development for psychological and educational purposes is the presence and prominence of the more important social impulses and the social influences acting at different periods. It will be found also that changes in social sensitiveness are to a considerable extent correlated with changes in other lines of mental development and with changes in outer influences. The change at six for example is due largely to the new influences of school life and other companionship outside of the home, while that in the teens is due largely to internal processes of development.

The Stages Distinguished and Characterized. The first stage, which ends near the close of the first year, may be described as the *pre-social stage*, during which the child is influenced by things and persons, as are animals, in an almost wholly objective way, and only slightly or not at all by the thoughts and feelings of the persons around him.

The second stage, which closes at about three years of age, may be designated as the *imitative and socializing stage*. During this period the child becomes more and more susceptible to mental influences and his mental states are determined to a considerable extent by the mental states of those around him.

The third stage, which culminates at about six years of age, may be designated as the *individualizing stage*, during which the conscious personality that has been developed during the previous period becomes more distinctly individual and asserts itself, instead of merely assimilating the characteristics of others.

The fourth stage, ending at about twelve years of age, may be described as the *period of competitive socialization*. It is a period when a child is introduced to a wider social environment and in which the impulses to excel in competition are prominent and are brought out in association with others of the same age.

The fifth stage, culminating at about eighteen years of age, may be called the *pubertal* or *transitional* period. During this time the youth and maiden become more susceptible to many social influences that formerly affected them not at all, and many new and important interests develop that are characteristic of the sex and age.

The sixth period, ending at twenty-four years of age, may be designated as the stage of *later adolescence*, during which the individual is ushered into the larger world of thought and action and becomes prepared to take his part in the various activities of the race as a fully developed man or woman.

Cautions to be Observed. It must not be supposed that what characterizes one of these periods is entirely absent in the others, but merely that it is more likely to be a prominent and more or less dominating factor during the stage of development to which its name is given. Neither must it be supposed that the change from one stage to another occurs at exactly the time indicated. The duration of the different stages is subject

to great variations in different races, in different social conditions and still more in different individuals. When we know that some children begin their period of rapid growth at puberty, several years earlier than other children, it would be strange if we did not find greater differences in the age at which the various mental characteristics become prominent. It is believed that the *order* of development is less subject to variation, yet owing to the fact that some phases of development may be suppressed, some passed through very quickly and others prolonged, there may in individual cases seem to be variations in the order of development.

It is probably true, also, that phases of development that have been passed, may again, under certain conditions, become prominent at a time when other characteristics usually dominate. Only very marked variations from the degree and order of development at any age should, therefore, be regarded as abnormal.

While there is a constant gradual development in all lines there are accelerations and retardations in rate and many shiftings of outer and inner factors of development, so that those that dominate for awhile and give a general trend to the whole process of development, are at a later stage subordinated to other factors.

Although the kind and rate of development in different lines and at different stages do not correspond, yet they are related to each other in such a way that modifications in one line or at one age may produce marked effects in other lines and at other ages. This makes it difficult not only to determine what the normal stages of development are, but to discover the causes of peculiarities, or seeming abnormalities that are found at any time in individual children.

There are also various ways in which lack of stimulus or activity in one line may be compensated for. For example, a child who has no companions may get similar stimuli from dolls, flowers or animals, or from reading, and he who cannot engage in certain forms of physical exercise may do so in imagination and get some of the same mental and moral effects.

Again, contrasting characteristics are really always closely related, hence boldness may be easily changed to timidity, suggestibility to contrariness, laziness to industry, etc. In this way the general direction of development of two children who are really in the same stage, may appear to be entirely different.

The science of genetic psychology will probably never become so exact that it will be possible to tell just exactly what a child with given native tendencies and surroundings will be at any given age, or just how he will be affected by any influence that may be brought to bear upon him. Yet at the present time it is possible to describe the inner and outer factors concerned and indicate what characteristics are likely to be prominent at any given age, with sufficient definiteness to help one in wisely dealing with children individually and in groups. Those who are looking for rules to be mechanically applied according to the age of children, will be disappointed with child-study both now and in the future, but those who are already studying children individually in the light of common sense and their own experience with them, may be greatly aided by the broader truths that are being formulated by scientists.

The science of meteorology is well advanced, but no one can predict what the weather will be in a given place, on a certain date months ahead. Nothing is more

sure than the seasons, nothing more variable than the days. The science of child development, however well advanced it may become, can never take the place of individual study. However certain we may become as to the inner principles of development and the general effects of outer influences and as to the stages of development that children pass through, we can never predict far in advance what an individual child will be and how he will be affected by a certain influence, yet we may prepare for certain conduct at certain ages, just as we prepare for the different seasons.

EXERCISES

1. Illustrate from the growth of some plant that there are stages in its development and that one kind of development prepares for another.

2. Compare two children strongly contrasted in ability and special characteristics, and give your reasons for thinking the differences due chiefly to natural tendencies or to surroundings and training.

3. Prove that social surroundings and influences are more important than physical in developing the mind and character of human beings.

4. Compare the author's classification of the stages of development with any other that has been proposed, to see how they differ and agree.

5. It will be a good exercise to look over a number of language papers or listen to the reading of definitions given by children of different ages, and try to judge the age of the children.

CHAPTER IV

THE PRE-SOCIAL PERIOD

Characteristics. This is a period of very rapid physical and mental development, but social influences play little part in this development compared with their importance in later periods. The child, like all the higher animals, starts with many reflex and instinctive tendencies. He has also many that do not appear for some time, and he has a wider range of curiosity and more tendency to imitation than any of the animals. He responds to the stimulation of objects and of what persons do, in much the same way as animals, but he is only slightly more affected by mental stimuli than they are.

Changes in the expression of a person's face may be very interesting and even amusing to him, entirely regardless of the mental state of the person observed. As to the tones of voice, the case is somewhat different, the child seeming to be instinctively sensitive to them, as are the more intelligent animals, such as the dog. Both seem to be influenced by the mental states associated with the various tones of the voice, yet this is not true to so great an extent with animals as it is with children. Infants of only a few months may appear to be saddened or enlivened by the appropriate tones of voice and they often respond by similar tones.

Later, they clearly respond to the visual stimulus of a smile by a similar facial expression. This, however, is probably the result of experience rather than of an

instinctive tendency, the smile being associated with pleasing tones of voice, petting, and other enjoyable experiences that previously had caused him to smile. Such expressions of mental states call forth in the child some of the same facial movements and help to arouse corresponding mental states in his mind. He thus later becomes capable of being affected more directly by the mental states of others.

The conscious life of those around him is not, however, the dominant influence in the child's development during the first year. The chief influences are sensory stimulations given by his bodily states, by movements, by things, and by persons. His mental life develops primarily and chiefly by receiving and reacting to such stimulations. To his physical environment the child is keenly alive, but to his psychical environment only slightly so. It is the only period of his life in which the minds of others do not have a greater influence on him than material things.

Changes That Take Place During This Period. The child nearly trebles his size during this period, a rate of growth far more rapid than in any subsequent period. This is typical of the rate of his development in all lines. From a condition in which he has little or no mental life, he changes into a creature that probably surpasses the highest animals in some kinds of intelligence. From a condition in which he makes a few simple reflex and instinctive movements that are useful, and a great many random movements that do not get him any where or change anything around him, he gains a power of control of hands and voice which makes him superior to any other animal, in certain forms of motor activity. He is now also able to move himself around and manipulate

objects much as he wishes. He knows individually a large number of objects and a number of persons, and is able to react in an appropriate way to each. From being one of the most helpless and stupid of beings he has become one of the most psychically active and intelligent of animals, with some human characteristics becoming prominent.

Changes except in size are not very marked during the first weeks, but soon it is evident that the child is getting control of the head and eyes so he can look at things and not merely be stimulated by those that come before him. At about the end of the first quarter year he can sit up and is perhaps beginning to direct his hands in grasping things. He gains rapidly in this and other ways and soon is successfully locating sight, sound and tactile stimuli. He acquires some mode or modes of locomotion during the third quarter, such as crawling, creeping, hitching, rolling, etc., and near the close of the year he often begins to walk upright, either alone or by holding to something.

The most significant change is that his movements, from being simple and largely incoördinated and useless, have become complex and to a considerable extent coördinated and effective. This means that the change is chiefly one of organization of the simpler parts concerned in the early reflex and instinctive movements, so that they act in related and harmonious ways in securing ends.

Development of one part prepares for the development of another and the combined use of the two. Control of the head and eye sensations and movements are correlated with hand sensations and movements, otherwise it would be impossible to grasp an object that is

seen. The muscles of the trunk must respond to equilibrium sensations when the child is sitting up and reaching for objects or he will fall over. In moving toward and grasping objects the muscles of head, eyes, trunk and limbs must all act in a coördinated way or the child will fail in the attempt.

For every movement involved in such an act there were at first reflex or instinctive tendencies, but now they have been organized into a harmoniously coördinating system, hence the child is no longer a helpless wriggler as he was during the first few weeks.

This great change toward muscular coördination is correlated with similar changes in mental coördination. The child's sensory and other mental states are no longer isolated, but are associated and organized so that consciousness is not a meaningless chaos, but a related whole to which every sensation means something.

As the movements take place in a definite combination and sequence the sensations occur in certain combinations and in a definite order. This in time brings order out of the mental chaos and there is anticipation of sensations to be experienced. The child now not only finds sensations of sound, color, etc. familiar, but knows that they mean certain objects or experiences and he is able to control his own movements in such a way as to get suggested experiences that are desirable and avoid those that are unpleasant.

In the case of instinctive movements of emotional expression such as crying, there is at first a rather complex combination of sensations and movements, which give rise to an unspecialized feeling of discomfort. After a few months the nature of the sounds and movements indicates to a skilled observer whether the cry is due to

hunger, pain, anger, fright, etc. Such specialization of movements probably helps to produce the corresponding differentiation into more specific mental states which becomes very prominent before the close of the first year. Many mental states such as curiosity and surprise develop also before the close of this period. At or before the close of the year the child has imitated many signs of emotional expression and is beginning to imitate new movements and sounds, hence is rapidly gaining the more human characteristics.

Treatment during the Period. In this period of rapid growth and great physiological changes the most important consideration is health. This is greatly emphasized by statistics which show that about eleven per cent of children die during this period, whereas but two and one-half per cent die in the second period and less than one per cent in the third year, while in the sixth year the death rate is little more than one-third of one per cent and in the twelfth, but one-sixth of one per cent. Physical welfare should therefore be the chief care during the first year. It is during this period that the disastrous results of the belief that children are just like adults, only smaller and weaker, have been most marked. The child who is treated as regards food, sleep and medicine as if he were like an adult must be exceptionally strong if he survives. It has been demonstrated that proper food, with some instructions to mothers, may decrease the death rate among infants in our cities one-half. The questions of proper clothing, air and exercise without too much fatiguing attention and stimulation, rank second only in importance to food in preserving the health of infants, and are perhaps even more important in relation to future mental development.

The child's physiological processes may be regulated by favorable surroundings, systematic feeding, rest and sleep, while the variety, number and order of objective stimulations may in part be determined for him. In many cases the infant has too many strong and rapidly changing stimuli forced upon him, especially by the actions of persons. These fatigue him, make him nervous and over excitable and give him little time to discover the real qualities of objects. The child should have some stimulation through being cuddled and played with by persons every day, but only a limited amount. He should also have opportunity to exercise his senses on objects of all colors and shapes, and of various auditory and tactile possibilities.

As soon as he can move his hands he should not be amused wholly by what others do, but rather by what he can do, to objects and with them. Others may do things that lead the child to discover new possibilities in objects but they should not long at a time manipulate objects for his amusement. By so doing they interfere with his own educative play activity and hinder his finding out the real qualities of objects and his own powers in relation to them. As has elsewhere been indicated, the power of varied manipulation of objects for different purposes, is what gives the child an advantage over any animal in the formation of free ideas. His mental development is therefore best favored by allowing him, during this period, plenty of opportunity for such manipulation. Suggestions as to ends to be gained are not needed in this stage as they are at a later period. The principle of novelty should be made much of at this time. None of the child's playthings should be with him all of the time, but those not in use should

be placed out of his sight for awhile, as soon as he loses interest in them, then restored to him again when they will arouse his interest anew.

Health is favored and the basis of a sound mental life is provided by establishing a good set of habits, not only as regards regularity in eating and sleeping, playing and resting, but as regards the way in which he shall respond to whatever is being done for or with him. It is well known that an intelligent cat or dog can be trained to behave himself and make his wants known so that he will not be a disagreeable nuisance as untrained or badly trained animals so often are. In a similar way and by similar methods a child may be so trained that he will be a joy to himself and others, or he may become the fretful, irritable, irritating tyrant of the household.

The mother, like the trainer of animals, should do things in the same way every time, that there may be the same sensory motor signs as a condition or signal for each type of reaction, when the child is being fed, dressed, or put to sleep, and thus he will readily form habits of having things done to him and of doing the right thing at the right time without any fuss.

More complex habits that are really elementary acts of politeness, such as waiting quietly for food or to be taken up, may also be formed if care is used. If the expression "in a minute" is employed and is at first followed very quickly by food or attention, a beginning is made and the time of waiting may gradually be prolonged. If, however, the interval is too long at first, crying may ensue and the expression become a signal that starts the child to crying for food or attention instead of waiting quietly for it. The child may also be taught to give up things quietly and to allow himself to be taken where one

wishes, or he may learn to make a scene in all such cases. He is not consciously either good or bad during this period any more than are animals, but he is forming habits that will have important effects upon the conscious self that develops during the next period and that will be likely to have some influence upon his ultimate character. The child may thus be greatly influenced by the people around him during this period, in so far as what they do leads him to form certain habits, although he is at this time influenced scarcely at all by their mental states as such.

EXERCISES

1. Report examples of infants responding to tones of voice. How young a child have you known to be influenced by any other sign of a mental state in another?

2. Describe some of the earlier attempts at voluntary motion by infants, noting the sense and motor organs involved.

3. Compare as to methods used, instances of training an infant and a cat or dog to do certain things.

4. Why should an infant not be used as a plaything by older people to any considerable extent? Should adults do much to amuse infants? Why?

5. How would you teach an infant to go to sleep at certain times?

CHAPTER V

IMITATING AND SOCIALIZING STAGE

Conditions and General Characteristics. Having made himself familiar with all kinds of sensations and many of the objects of his environment, the child is now ready to get new experiences from the more variable things in his environment, especially from persons. Previous to this they have been interesting to him as means of getting his physiological needs satisfied and as variable and not understood playthings. Objects are inert and he soon learns something of their characteristics and what he can do with them, while persons are active, variable and unmanageable, and therefore they continually and increasingly interest him.

People, while playing with the child and also when working in his presence, often produce most interesting and startling changes in the relations of things. Such amusement, however, lacks the feeling of muscular activity and power that is felt when the child himself manipulates objects. It is not strange, therefore, that, when he finds that he can make the same interesting changes that others make in the relation of objects and at the same time get agreeable feelings of active power, as he himself makes the movements, he should spend so much time in doing what he perceives others do, instead of merely jerking things around or watching what others do.

Some of his imitations, as for instance coughing and crying, are reflex or instinctive in the special sense that

there is an apparatus already organized to respond when such sounds are heard, just as there is a crouching apparatus in a chicken that responds to the danger call of the hen. This is true also of emotional expressions, all of which the child imitates more or less before the end of the preceding period.

It is in this period that more complex and instinctive imitations are made and with greater accuracy. Tones of voice, laughing and crying, frowning and many other expressions of the face are imitated. This tendency was strikingly shown in one little girl of about a year and a half. Her mother was undergoing treatment that gave her considerable pain and a person standing behind her watching the little girl's face as she stood facing her mother, could see the reflection of the mother's expression in the child's face almost as clearly as in a mirror. In this kind of imitation of instinctive sounds and movements, the child is only a little more ready than animals, while in the tendency to imitate new movements he differs greatly from them. They have little or no tendency of that kind while he has it to a marked extent.

In the case of new sounds and movements there is a less definite organization to serve as a basis for the early spontaneous, and the later more voluntary imitations. The perceptive organs are so related, however, to the motor organs, that there is more tendency, when attention is centered upon the perception of a sound or movement, to act so as to reproduce that sound or gesture than to make any other movements. For example, attention to a sound is more likely to call the vocal organs into action, while attention to a gesture is more likely to produce movement of the hand than of any

other part of the body. The exact way in which vocal organs or hand must move in order to reproduce what has been perceived must, however, be learned. This sensory motor relation, together with the instinctive and acquired tendency to observe persons and their actions and respond in some way to them, constitutes the kind of imitative instinct which is so much more prominent in man than in animals. It is chiefly this instinct, associated with those of play and curiosity, that in these two years transforms the child into a creature with the consciousness of a human being.

The child that during this period is deprived of family association, though well cared for in an institution, is very imperfectly developed because of the lack of personal contact with individuals in the intimate relations of the home.

In the ordinary home the child, during these two years, learns a language, becomes a member of the little family society and establishes various social relations with its members and with some persons outside.

The importance of what is learned in the ordinary home is suggested by the following notes taken from Miss Munro's account of a child taken from an institution at three years of age. She could talk very little but could understand a number of words. The attendant had no time to talk with her, but only to tell her what to do. She had no idea of family relations, "mamma" meaning any of the nurses. Little had happened to her except to be fed, washed and dressed, and she had no idea of the individual ownership of anything, not even of clothes. The most she knew was how to care for babies, learned by seeing and imitating the nurses. She had no idea of a doll, dog, cat, or pictures and did

not know she could not walk on water. She knew nothing of colors and could not learn to discriminate and match them for a long time. She used the sense of touch a great deal. She distinguished very imperfectly between imaginings and real experiences, probably because of insufficient perceptive experiences. She was a bright child but knew so little that the family concluded that children in a home must learn more in the first three years than in any other period of the same length. This is therefore preëminently the period in which the moulding influences of the home have most complete sway.

Imitation and Social Consciousness. Imitation is the most dominant tendency during this period, directing as it does to a considerable extent the child's curiosity and play. A large part of what he does is suggested by the actions of others. With his interest in persons, he naturally becomes interested, not simply in novel acts and new relations of things, but in the feeling that may be experienced in doing things. If he lifts a weight after seeing some one else lift one with expressions of effort, he learns the feeling that accompanies the act of lifting and forms an idea of the sensations of others when he sees them perform acts that he has imitated.

In the case of familiar acts, he may get almost as much pleasure from seeing others do them as from his own performance, but an act that he has never performed gives him a sense of lacking something, until he too can do it and know how it feels. The tendency to imitate is so strong that a child may repeat several times what some one else is doing, though the result is to him painful; e. g., eat sauce that is hot and to him disagreeable.

After observing and imitating many acts, the child,

when he sees a person doing anything, thinks not so much of the objective movements made, as the sensations of movement and the feelings and ideas that go with them. The signs of emotional expression are earliest imitated and the corresponding feelings experienced in some degree, so that emotional states in others are perceived at an early period. The child begins to share the condition of older people who find it almost impossible to observe the movements of a person's face, e. g., a smile or other sign of emotion, in a purely objective manner as they would the movements of a machine.

When a child, in observing persons, perceives their mental states rather than their movements and their effects, he becomes more subject to social and mental influences than to material stimulations. He imitates mentally to a considerable extent, where he at first imitated objectively only. He is now psychically as well as instinctively a social being and subject in a high degree to many of the social and psychical stimuli of his surroundings. Imitation is a great aid in learning move ments and gaining knowledge, but it is of still greater importance in introducing the child to his psychical environment and thus moulding his mental life.

Common Consciousness and Social Sensitiveness. In this stage there is not at first a self-consciousness distinguishing between self and others, but rather a common consciousness with others, that has been produced by doing what others do. Laughing, sometimes even eating, is impersonal, being almost as pleasurable when done by others as when done by the child himself. This condition usually remains prominent for a year and sometimes for several years and helps to make this one

of the most charming periods of the child's life if he is dealt with wisely and lovingly. He enjoys everything that is enjoyed by those around him and wishes them to share all his pleasures, while his griefs are soon soothed by loving caresses.

In this stage, signs of pleasure and approval in others are the strongest stimulus to continuing an act, regardless of what other results there may be. It is for this reason that the tendency to show off in such a way as to attract attention and produce a laugh or other sign of approval, often becomes very strong. The parent who punishes a child for engaging in mischief that attracts attention and laughter usually finds that the painful results do not stop the act so long as people show by their expression that they enjoy it.

This condition, often described as forwardness, has its opposite in shyness. In the first stage of development this is little more than the fear that is always likely to be excited by new things and strange persons, but in the second, it is the result of doubt as to whether feelings of approval or disapproval will be excited in strangers by approaching them or doing things in their presence. In this stage the child who is sensitive to social stimuli, but who has had unfortunate experiences of disapproval, may lead a restrained and unhappy life, except when alone or with those who he feels will approve of him.

In some children the two conditions of shyness and showing off are combined in complex ways. The strong impulse to get in touch with persons by doing something to attract their notice, and the fear that their response will be one of disapproval, may struggle with each other and one may dominate at one time, then the

other, in a way most puzzling to his friends and perhaps to the child himself. If the results of attracting attention are generally favorable, the child may get over his shyness in that particular line, at least, but if unfavorable he may either avoid people or show off a great deal if he can attract attention, even though it be unfavorable. This tendency is often more prominent, however, in a later stage of development.

There is another type of child in whom social sensitiveness is deficient or slow in developing, who remains during these years apparently indifferent to the approval of others except as it is followed by the giving of pleasure or the infliction of pain. Such children appear to be controlled only by punishment or reward as are animals, but it may be that this seeming lack of humanness is due to unsympathetic treatment or lack of emotional expression in those around the child, or to a retardation of mental development that may be overcome by abundance of social experience. It is probable that this retardation is likely to occur in children who for one reason or another have imitated persons but little and received few indications of the mental state of others and have, therefore, failed to develop to any considerable extent a common consciousness. They often appear to be stolid because they do not respond to the social suggestions of emotional expression. This condition is much more marked in institutional children than in those living in a family.

Illustrations of Social Sensitiveness. Boy of fifteen months. When he sees some one of the family smiling at him will trot around and bend to one side and do other things to attract notice. He is, however, shy with strangers.

Girl of fifteen months. Nearly always smiles, even if crying, when any one smiles at her.

Girl of twenty-two months says "cry" in a pathetic tone when looking at a picture of some one crying. She did this once when only the attitude indicated grief.

Girl of twenty-two months, when pretending to read, looks up to see if any one is noticing or laughing.

Girl of two years. Wants to do everything that others do and is willing to wait for her turn in games, gymnastics or whatever is being done.

At two years she heard some one say in an expressive tone, "I was scared when I saw how much oatmeal there was." She dropped her spoon and seemed afraid of the oatmeal she was about to eat until reassured regarding it.

On another occasion she seemed to appreciate that her mother had been hurt when she saw her come against a door rather hard, although no sign of pain was visible. She said "Do, do (door), cy, cy" (cry), in a sympathetic tone.

Girl of two years recognizes disapproval and seems to try to dissipate it by saying "Mamma" in a wheedling tone.

Girl of two years. When sister cries, walks around her, tries to hug her saying, "Hug her," "Better." She also wants to rub her mother's head if it aches.

She pinched her father and was pinched by him. She then pinched him again and insisted on being pinched in turn, apparently to get the full meaning of the act.

Girl thirty-two months. Showed sympathy for a person who had a cut finger.

Girl thirty-three months. Obedience seems now not

so much a habit as conscious submission of self to another.

Girl, twenty-seven months. Always wants to share and have others share, e. g., wants to get on father's lap when brother does and wishes him to remain.

Girl, thirty-one months, said to doll, "You like me, dollie?" then turning to her mother said, "Dollie likes me."

Boy twenty-eight months. Having been tapped lightly on the cheek by his father as a punishment, he sat on his father's lap and cuddled up to him saying at intervals, "I don't want papa to slap me." The matter was explained and he did not again commit the offence. Evidently there was a disturbance, but not a rupture of common consciousness.

Boy three years. His mother was uneasy, not knowing where his sister was, but said nothing about it and tried not to show it. Soon he said he wished he could see his sister and finally, "I am not happy, Mamma," evidently having caught the feeling from his mother.

Development of Social and Self Ideas. Although children early in this stage show a great deal of individuality and frequently resist both objective and social influences brought to bear upon them to make them refrain from mischief (which is, play or other activities pleasing to them and not pleasing to adults) yet the individuality is not at first a conscious one. The child shares mental states with others, with now more emphasis upon the self phases and again more upon the mental states of others who are sharing his experiences, but there is usually for a considerable time no clear line of demarcation between self and other persons or even between self and other things. All things that move of

themselves, such as animals, and all things resembling animals or persons, such as dolls and toys, are often to the child sharers in active conscious life. Trees and flowers that move in the wind and even inanimate stones may also be regarded as conscious by some children, not only at this time but much later.

A little girl of three and a half years said, when putting down a caterpillar, "He wants to go and see his folks, don't he?"

A boy of three and a quarter years said to a cat, "Roll over," with apparently the same confidence in being understood as when speaking to persons.

A little girl of less than three said, "Poor wood," when she saw it placed on the fire.

A girl of nearly three complained of a basket, "It won't mind me."

Whatever emphasizes the difference between the consciousness of self and that of others, such as (a) sickness, with its peculiar and often intense feelings associated with special treatment, (b) marked difference in occupation and treatment of self as compared with that given to others, and (c) opposition between his own desires and pleasures and those of the people around him, hastens the process of differentiating the common consciousness of self and consciousness of others.

Knowledge of the bodily self is gained just as is knowledge of other objects and it greatly influences the ideas of the mental self. The hands are among the first parts to be noticed, often being watched and one felt of or even picked up by the other. The feet come next, then perhaps nose and eyes. Most of these are usually familiar before the close of the first year. In the

second period a more conscious knowledge of their peculiar relation to one's feelings is gained. One little girl wanted her fingers taken off, apparently not realizing that they might not be removed and put on again as were her mittens or shoes. A girl of three bit her fingers, one till it bled, "to see if it was really me." Children, before the close of this period, often strike or scold their hands for doing something forbidden, though this may be in imitation of older people. Dress plays a prominent part in the ideas of the bodily self. Boys often think for some time that they were girls till they left off dresses and put on trousers, when they became boys.

The child's mental self and the selves of father, mother and friends are for a long time parts of a common consciousness, and only after considerable experience in which his own and the common consciousness are contrasted or opposed, does there emerge the clear idea of his own self as a separable and distinct whole instead of part of a common consciousness. Indeed, even in adult life, the feeling of a common consciousness sometimes becomes so great in coöperative effort or sympathetic appreciation that the individual self almost or quite disappears for the time.

When the child has reached his third birthday, and often long before, he not only feels a self different from other persons, but is often able to think of his own mental self as a whole as distinct from other selves, now sharing with them and now in opposition to them. Previous to this, obedience has been merely reacting to the social stimuli that so readily affect him, but now it becomes more conscious and he may oppose a good deal of resistance not merely to doing certain objective acts but

to the submission of his "me" to the domination of another personality.

Language of course plays a considerable part in the development of the idea of self, just as it does in the development of all ideas. The child is first helped in distinguishing persons, including himself, by their names, just as names help to distinguish objects. In the use of the pronouns, "my," "I" and "you," when the owner or speaker is distinguished for the time being, whatever his permanent name may be, the child learns to give closer attention to the exact relation of that person to the situation.

The child's "I don't want to" and the parents' "But I want you to" bring in contrast not only the two selves but their attitude toward the same thing. There is good ground, therefore, for the claim that the idea of the self as a distinct conscious being has developed when the words "I" and "you" are used correctly and that as a rule it has not developed much earlier, although the use of possessives, such as "mine," "papa's," may have helped to the formation of a fairly definite idea of a conscious self, distinct from other conscious selves. Usually, however, these words imply only an objective self with the incidentally associated feelings.

The clearer idea of self may come into consciousness either gradually or suddenly. Some persons claim to remember distinctly its sudden emergence. It is not, however, even after it has been clearly formed, an idea that is continually present, or of the same degree of prominence. On the contrary, as an idea it appears only occasionally at this time and later, though the feeling with which it is associated is always, except in unusual states

of absorption, a part of the conscious life. To adults the idea of selfhood sometimes occurs with peculiar vividness and it may be that those who say that the idea first came to them at a certain well remembered time, may be really describing, not the first emergence of the idea, but one of its earliest, most vivid and prolonged appearances.

The ordinary consciousness of self is not much more prominent than the consciousness of the immediate objective surroundings and of other persons who are or might be also conscious of them. We are most of the time aware of where we are and of how our acts are likely to be regarded by others. Consciousness of self, and consciousness of usual surroundings and of others to be affected are, the greater portion of the time, the background of definite conscious states instead of being themselves prominent phases of consciousness. It is only occasionally even in adults, that the self is brought into prominence and separately emphasized either in feeling or thought, and then consciousness of self is nearly always contrasted with a consciousness of others.

Consciousness of self, in its usual permanent form of a background for other things, is probably of biological value in coördinating reactions to correspond to bodily conditions and to the immediate situation. If the physiological processes are disturbed or weakened, the usual modes of reaction may be varied because of the change in feeling. A sick or wounded animal does not attempt to escape danger in the same way as a vigorous one. The feeling of equilibrium and of special relation to surrounding things is equally prominent and necessary to successful reactions. Animals, therefore, probably have vague feelings of a unitary self that aid them in

making appropriate reactions, but they are not so intense and are probably not definitely distinguished as they may be in human beings.

The value of such feelings and discriminations is not, in human beings, however, chiefly biological, but psychological. It is well to be aware of physiological disturbances in order that they may be corrected, but the chief function of self-consciousness is to help us to bring our mental states into harmony with each other and with those of other persons, by eliminating what is objectionable and emphasizing what is desirable.

The power to distinguish the individual peculiarities of self and others, is of great advantage in dealing with persons. Something of this power have children in the first stage of development. This in such cases is, however, almost wholly an objective matter, consisting in knowing what to expect from persons, including one's self, because of previous experience with them. In this second stage of development the child understands the actions of persons and knows how to respond to them, not merely as he does to things, but because he recognizes their conscious states. He now knows that the things people do are largely to be explained by motives rather than by the influence of outer forces, as is the case with objects and machines. This consciousness is indicated by the question so frequent a little later, "What are you doing that for?"

Only through common experience and a development of a consciousness of motives can the child effectively respond to his human environment. In a primitive state of society they may even be necessary to preserve life. Such consciousness is the basis of successful coöperative effort by groups and in all stages of civilization and in

individual development is one of the chief sources of mental pleasure. To know persons as psychical beings is as important as to know them as physical beings, and such knowledge can only be gained in connection with the gaining of self-knowledge. On the other hand, knowledge of self can only be gained through the knowledge of other selves that differ from as well as resemble us.

Emotionally a strong self-life is a necessary basis of social affections. One must have felt strongly in common with others and by one's self in order to appreciate the feelings of others. Self-feelings are also a basis of moral feelings. To love others as one's self would mean not to love them at all if one entirely lacked self-love. At every stage there is inevitably close reciprocal relation between self-appreciation and the appreciation of others, although one may be emphasized at the expense of the other.

To be self-conscious means that there is mental organization and unification or, in physiological terms, that the higher cerebral centers are organized and connected in such a way that they can function independently as one, and direct to some extent the activities of the lower centers. A considerable development of memory and free ideas must have taken place, otherwise there could be no conception of a permanent self, undergoing experiences similar or different from those previously undergone. More experience in observing this comparatively permanent self is necessary than has usually been attained in this stage, before it can be reflectively known as a continuous yet changing self, but reflections regarding self are common in the next period.

It is during this period of common consciousness

that the germs of character and especially of the emotional life are developed. The child reacts as others do, and shares to a greater or less extent all the feelings expressed in tone and gestures by those around him, especially when he and they are engaged in the same activities. He acquires from others many antipathies and likings that he feels, but cannot explain in later life. This is perhaps most noticeable in the case of fears. If the persons around him show fear of worms, insects, snakes, darkness, lightning, etc., he shares their feelings and may in later life be unable to overcome his timidity and repugnance although he knows there is absolutely no basis in reason or fact for such feelings. No doubt many characteristics often supposed to be instinctive or inherited are the result of emotional attitudes produced by the actions of others during this period of great susceptibility to social influences. The effects of such impressions remain and permanently affect character although memory can rarely recall any specific event that occurred during this period. Professor Judd gives a striking instance of a man who had an unaccountable fear of horses, but inquiry revealed the fact that he had when a small child been bitten and frightened by a horse. The emotional effects remained although he had no conscious memory of the event.

There is probably no more important period in the life of an individual as regards his emotional nature (which is the basis of character) than this period when the child is learning to share the mental life of others. The spirit of the people around the child, the atmosphere of the home, never enter so fully into the child's own nature and become a part of it as during this time.

Health is very important at this time, not simply for

its own sake, but because of the effects of physiological disturbances upon the feelings, disposition and character. Every disturbance of physical well-being helps to give an unfavorable trend to the conscious life that is forming, hastening self-consciousness, interfering with the development of a common consciousness and fostering contrariness and other undesirable individual characteristics that are often common in the next period.

Some persons never seem to be able to develop a satisfactory social consciousness so that they can get into proper relationship with other persons. They may be antagonistic or helpful, but cannot seem to be at one with others. Such persons also often lack the feeling of unity with a higher being which their religious impulses lead them to desire. It is probable that this deficiency is due in part at least to the fact that when the mental and social self was being formed in the second stage of development, they failed for some reason to develop the feeling of a common consciousness with others. The individual self-consciousness developed alone and in opposition to other people, instead of emerging and being differentiated from a common consciousness.

The two most important things to provide during this period are (1) pleasant, sympathetic relations between the child and those around him, and (2) the uniform conditions and treatment which are favorable to the formation of desirable habits of conduct. Obedience should, during this period, be more a matter of habit than of conscious volition.

Language Acquisition and Ideas. It is during this period that language, the medium by which more specific and individual common conscious states are produced, is learned with great rapidity. The emotional phases of

common consciousness may be developed through the medium of natural signs, and are then readily shared, but well defined intellectual states can be produced and shared only as a more definite artificial language is acquired. There is, therefore, a very close relation between learning to talk and development of the intelligence.

In observing what persons do and in sharing their mental states the child notices a great deal of moving of lips and uttering of sounds, and imitates those movements and sounds. At first, even if the words are fairly well produced, he shares the mental states of others only as regards the feeling of vocal activity. Sounds, however, are so frequently made with expressive signs and in close relation with objects, movements, qualities and persons, that the child mentally reproduces a part or all of the associated experience whenever he hears such sounds. When such an experience is repeated and he utters the corresponding word it is then no longer a mere vocal performance, but signifies a particular object, act, quality or mental state. A child who first heard the word "tired" after walking some distance, and was at the same time taken up and carried, may have associated the word either with the feeling of weariness or with the act of being taken up or both, but she often afterward said, "Tired, carry," when she wished to be carried.

A new means of sharing the consciousness of others is thus opened to the child. Speaking words is no longer a mere vocal play or even a means of getting hunger or other wants supplied, but of getting and sharing mental experiences. The social child is, therefore, the one who learns language most quickly. Al-

though the child is all the time acquiring new and more definite ideas of things by his own observation and experience, yet his attention is being directed and his ideas formed to a large extent by the consciousness of others, through the medium of words that become associated with and help to define particular phases of his own conscious experiences.

The child seeks names for objects and acts that he has noticed and thus increases his own vocabulary, while on the other hand words of others are continually directing his attention to things that he would otherwise give little attention to and thus his ideas are increased in number and their meaning and relation become better defined.

The child's sentences are for a long time very incomplete, indicating only the situation as a whole or some interesting phase of it, and his ideas are doubtless in the same condition.

The whole situation may be indicated by a word specifying some phase of it, as when "bed" and "chair" mean the act of sitting or lying down as much or more than the objects. The more complete sentences that are used later both indicate and help produce more discriminative mental states. The complex mental state of perceiving a thing as a whole and also as composed of related parts is not as yet possible. This is clearly indicated not only by incomplete sentences, but also by the partial, detached character of the child's earliest drawings, in which there appear to be only very indefinite ideas of size, shape, number and position of parts of the object and their relation to the whole.

Every object or situation is complex, producing many sensations, and it is unified and simplified by the re-

action that is made to it. A wooden block felt, seen and heard, is to a child a single unit and not a number of separate sensations of sight, touch and sound, because in playing with it, it is treated as one. The essential thing is to learn to react in ways that bring satisfactory results. This may be done to some extent without the help of language, so long as the reaction is merely one of physical movement in relation to the actual object. The utterance of a word, however, is a form of reaction that unifies as effectively as any other form of reaction and it is one that will serve when the object is not present, and that will serve for mental qualities and states as well as for objective situations. Words are therefore of great help in selecting elements of experiences and in forming the corresponding ideas.

Images of sensations and reactions can serve in the absence of the actual situation, but without language there would be no means of arousing such images, either in our minds or the minds of others, except by at least a partial reproduction of the actual objective conditions, and then there would be no means of signifying what phase of the whole experience was intended to be emphasized.

Since words may be made a part of any situation and then used later to recall the image of the whole experience or any part of it, language is one of the chief instruments for developing images and freeing them, and for forming abstract ideas. Whatever whole or part is associated with a word is thereby isolated, unified and simplified so that, though it may vary in the sensations it gives, still the child may distinguish it from other things and regard it as the same. Every object gives different sensations according to its position, lighting,

temperature, moisture, etc. A cup produces thousands of varying sensations, but if it is always reacted to by the word "cup" the variations are little noticed and it is readily distinguished from another variously appearing object that is called by the child and others, "ball."

Without language, the child, like animals, would know only a limited number of objects and would know them only in the sense of being able to react to them successfully in a few ways. With language, he can learn of things within his environment, and of things resembling them elsewhere. He is also continually guided amid the complexity of similarity and difference by the word reactions of those around him. Words thus determine almost completely how the world shall be organized in the microcosm of his mind. In learning a language and effecting such mental organization, the child becomes entirely different from animals and from what he was in the first stage. People of different languages have their ideas organized differently so that equivalent expressions are often hard to find, and children illustrate the same thing in their use of words.

Development of Language and Ideas Illustrated. The following exact reproduction of what was said by a little girl at intervals of six months shows how her ideas and her sentences developed and shows how her thoughts and remarks, from being suggested by external things, gradually became more connected and dominated by interests.

Two years and four months.

"Little story (tell me a little story). Dat all? New cuff? Crack want (I want a cracker). Make boy (when she saw her father using a pencil). Crack good.

Upstairs sleep. Hot, very hot. Milk. Grandpa. Very hot, sugar on it (the oatmeal is very hot, put sugar or cream on it). Down (as she put cooky down). Cough (when some one sneezed). Want that (a date). Oh my! stone. More, want more. Good, want good (nuts). Salt my on (I want salt on my nuts). Three, four, five (as the clock strikes). Picktooth. Grape, want. Baby, baby, little baby."

Two years and ten months.

"I make a noise. That oo? Know what that? That do? This what I play. Know this? I tired."

"I lay on the lounge. He touch my hand (the baby). I brush my hair. I want to see baby climb up there. I want to see that baby. Baby squeeze. Baby get hold of my dress. Tie this around me (a string). I want handkerchief. I want this washed (a soiled handkerchief). This a clean handkerchief. Can't fold it."

"I want my old cloak. I want go out. Go out here, my hat. I want to go out down. I want to go out, have hat on, cloak on. I wait for the boy. I play with the boy. Take his hat off? Did he take his hat off? I play with boy more. Know who that? I want to see the milkman. Dinner ready."

Three years and four months.

"Baby want to get down, run around a little. I run back and forth. No, I don't want to run out in the hall. Baby do like to have me run in here, baby do. He want me to run here. Baby want come out. You have to move away so baby can come out. No, go this way. Come round this way. I did n't mean to. Baby won't come. Come, baby. Baby won't come. You have

to come. Put my carriage somewhere else so baby come. Baby won't come. Come, baby, come. I want to have door open so baby can come in."

Three years and ten months.

"There is a nice little kitty. Don't you want to go down there and pat him? Why don't you? He is nice and soft. He is afraid sometimes. I tried to catch him and give him to you to pat him. He is a nice and soft kitty. Lots of kittens down cellar sometimes. Kitty thought it would run upstairs. Yes, kitty, he run upstairs. He likes to have you hug him. He likes to have you pat him, don't he? He runs fast down cellar. I make cakes in the sand pile now. See those seats there now. I get a shell here. That 's a seat, that 's a seat and that 's the table where you eat your dinner. Don't you want to eat some dinner? This is grapes here. We play that is grapes. Be careful not to break the grapes."

Perceptions and Images. Intellectually, this second period, besides being a period of language learning, is also preëminently one of development in sense perception and of image formation. For a considerable part of the preceding period, objects are known only in certain situations; e. g., an object so important to the infant as the mother's breast may be known only by touch, and the mother herself be known only by the several sensations of touch, voice and gesture and not at all by form. Before the close of the first year the child identifies many objects by means of one kind of sensation, that later are recognized equally well through any one of several senses.

During the first period he learns the specific relations between sensations given by familiar objects that

he has seen, touched and tasted. A knowledge of the general relations between sensations, such as enables a child to know how a new object will affect another sense, is not established. The weight, smoothness, temperature, taste or sound-producing qualities of new objects are not perceived through the sense of sight, until there has been experience of touching, tasting, etc. of the objects seen.

During the second period the general relations between sensations are better established, but the child still wants to feel, taste, lift or strike new objects to see what sensations they will give.

These general relations which are the basis of all perceptions are also the source of illusions and children in this second stage often mistake salt or snow for sugar, but they are scarcely at all subject to some sense illusions such as are prominent in adults.

The child now also acquires ideas of objects corresponding, not to all their different appearances, but to the standard or "real" appearance of each. This appearance that is taken as real may be one often presented but it is more likely to be the one that other appearances can most readily be transformed into, and that will then serve practical purposes. The true or standard shape and size of a rectangle is the appearance it takes when held at a little less than arm's length and at right angles to the line of vision. By placing objects in this convenient position they may be compared most effectively, hence this is taken as their real appearance. How objects look in other positions is of interest only as they suggest the standard appearance. A child in building with blocks of various sizes scattered over the floor is at first not able to judge of their size and shape because

they look different both as regards size and shape according as they are distant or close at hand. By picking them up and looking at them at right angles he gets a better view of them and can better judge whether they will fit in the place he wants filled. After much experience of bringing the blocks to that position where they can best be seen, he comes to know before reaching for them what the appearance will be and does not take them unless he thinks they will fit. He is soon able, instead of noticing how objects actually appear, to form an idea of how they would appear near at hand and at right angles, and is thus able to compare those that are near with those that are distant. In thus forming convenient standard ideas of the appearance of things he learns to ignore their actual sensory appearances. It is therefore often hard for an adult to see and draw an object as it really looks in a certain position.

The development of perception in every line involves this same process of ignoring some sensations and noting others. Words are identified although spoken in various keys and tones, and objects of touch are recognized in spite of variations in temperature.

It is partly through social suggestion also that perceptive associations are formed. Characteristics that are named and emphasized by the actions of others become the chief phase of any object or situation. Ideas of what is good, agreeable, pretty, dangerous, etc. are thus to a considerable extent formed by social suggestion. Words are also an important means of social suggestion, and help the child to go far beyond the animals in the development of sense perception. The word "heavy" emphasizes not only the strain that is being felt but also the visual appearance of the object and the character of

the lifting movement required, and it is partly for this reason that certain objects look "heavy," "light," "good," "pretty," and not merely because of present experience with the objects. With the appearances are associated not only sensations given by them in the past but also the mental states produced by the reactions of others to the objects.

The fundamental laws of physics are being acquired in a perceptive way as the child plays with toys of all kinds. Some objects will stand, others will fall, others roll, some may be crushed, others not. Some, such as liquids, run freely and cannot be grasped, while others are immovable. A child well along in the second year may be unaware even in a perceptive way that an object placed in a box when it is bottom up, will not stay as it will when it is right side up, and may again and again ignore the fundamental law of gravity by placing objects where they are unsupported. In the first period he learns to perceive his own equilibrium or lack of it, but in this second period, with some help from the actions of others, he learns how the equilibrium of other objects may be preserved.

Many of these associations involve space perceptions which in this period are developed to a considerable extent. In the first period the child develops sufficient power of space perception to direct his own movements, but he has not progressed far in perceiving the space relations of objects to each other. With some perception of the relation of objects to himself and the movement reactions required for various purposes, the child, during the second period, with his own reactions as a basis, learns in a practical and to some extent in an ideational way the directions front, behind, up, down,

under, beside, in, over, and the terms top and bottom, and acquires some idea of the relation of parts to the whole in the same object. Such ideas are very indefinite, as is indicated by the child's early drawings and by the fact that discrimination of forms and the perception of what is lacking in a familiar form such as a drawing of the human face, in which nose or chin is omitted, are imperfectly developed at the close of this period. Such perceptual development is reciprocally related to the freer activity of imaging and conceiving objects, classes and relations, yet on the other hand, only as associations are formed, and imaging and conceptional activity called forth, is progress in perception possible.

There can be little perception except where the excitation of one sense center calls forth the activity of others and all act as a unified group to produce a standard image. The germs of hosts of images and concepts of classes and relations are therefore being formed while the child's perceptive development is taking place, but during the early part of the period the mental activity is chiefly perceptual because it is the result almost wholly of stimulation by objects. Soon, however, the sounds of words serve nearly as well as sensations from objects, as a stimulus to unified activity of a certain type, or in other words to the arousal of images and ideas.

At first, the words must be uttered by some one else, before the cerebral activity corresponding to the idea is excited, but later the idea may be aroused in the child's mind by objects associated with the one named. The development of this possibility results in the formation of free images, which a little later may be aroused

not only by objects or by words, but also by other images. In this stage of development such free ideas are formed in large numbers as is indicated by the fact that the child may acquire a vocabulary of one or two thousand words.

These ideas are not, however, free from association with particular experiences. A word brings not only an image of what is named but also other phases of a particular experience. The child can easily understand descriptions of what he has done and experienced if given in familiar words, but he does not readily understand a description of the experience of another. If part of it is like one that he has had he may be able to follow the story pretty well, though it is often difficult to get him away from his own desires or experiences. When kitty was named in a story, a girl of two and one-half said, "I want a kitty," and when a ball was mentioned, "I want a ball." Not infrequently children, when being told a story, try to tell something like it that happened to them. By slight variations of familiar experiences told in story form, the child learns in the latter part of this period to follow a story pretty well.

Few things can be understood by the child except through the medium of images of his own experiences. It is not practicable to explain one word by another. The new word needs to be associated with some concrete experience, though sometimes several words may suggest a situation with sufficient vividness to make it possible to attach a new word to it. The child of less than three, however, often attaches an emotional significance and vague meaning to unfamiliar words, suggested partly by the tone and manner of the speaker, and partly by the situation and by a few familiar words

among those that he hears. He thus appreciates in an emotional way a scene that is portrayed in words, although he attaches definite ideas to few of the words used.

Illustrations of Perception and Imagery. A girl at one year begins to play with two objects, a ball and a box. Does not know that the ball will not stay in if the box is tipped. She shows perception of classes of objects in opening her mouth readily when told to do so, if she has food in it, but not when she has buttons or anything else likely to be taken from her.

Girl of twenty-five months called a picture of a cow, "dog." A few days later she named a cow and horse correctly but called a horse that she did not see very plainly, "cow"; then the next one she saw she named correctly but in a questioning way until assured that she was right. She likes to have some one draw pictures of familiar objects for her but wishes only enough drawn so she can name the objects.

At thirty-three and one-half months, she asks names of parts of things such as the tray, foot-board and arms of high chair, sides of screen door, parts of U. S. mail box.

Girl of thirteen months. Bounces a ball and smells of flowers. Looks around in an interested way when in a strange room. Tries to put one thimble in another, but does not seem to distinguish which ends to put together. Enjoys putting toothpicks in a little box. Recognized two persons she had not seen for over two weeks.

At fourteen months she is much interested in holes and covers. At one time she played over a quarter of an hour with a box and its cover without changing her at-

tention. She was much interested in a spider but afraid to touch the strangely moving object.

At fifteen months she knows enough of objects to expect them not to move of themselves, hence was frightened when a whisk broom came down when she pulled at something else, and was afraid to go near a piece of paper that was being moved by a girl hidden behind the door. Has just discovered that pencils will mark and has been using one a good deal. When looking in a mirror she turned when her father approached and his image appeared, and seemed puzzled that there were two of him.

At sixteen months she recognized olives by sight after having seen and tasted them once. Distinguished readily between bread and cake when she asked for one and was offered the other. At another time she begged for a bread crust evidently thinking it cake, but recognized the difference before tasting it. She confuses the words "eye" and "ear." She tries to use fork, spoon and button-hook for their appropriate purposes. She knows pretty well what classes of objects she is permitted to have and what are forbidden.

At seventeen months she had difficulty in shutting a door, and seeing some bits of paper on the floor, picked them up, apparently thinking that they interfered. She often turns the face of a person toward what she wants him to see. She has tried to use a nail and also a pencil as if it were a button-hook, but it may not be a case of mistaken perception.

At twenty months she insisted that a watch was a clock although corrected several times, but finally gave up and called it watch when her mother as well as her father gave it that name when she held it up. She now

builds a good deal with blocks and discriminates blocks from other things and the larger ones from the smaller.

At twenty-one months she showed knowledge of gravity by pouring from one vessel to another and once by holding a spoon while she poured some nuts out.

At twenty-two months, patted successively several kinds of chairs, saying, "chair, chair," and looking for confirmation. Can now put all her cubes (twenty-seven) in a box. She turns them instead of trying to jam them in as formerly. Has succeeded in piling up as many as thirteen in one column.

At twenty-three months she called the trunk of an elephant in a picture, a "nose."

At two years had not learned color names but readily sorted blocks of the six standard colors in imitation of her mother, without any hesitation except between blue and violet. This probably means that she had been perceiving color for some time. At this time she also began to build with blocks instead of merely piling them up.

Boy of twenty-five months. Saw snowflakes and said, "What flies doing?"

Girl of twenty-one months begins to use words for objects not present, especially such words as "boy" or "man" after one has been at the house, perhaps pointing at the place where he was. Once when she seemed to be reviewing her experience of the day, her father said, "Boy Margaret came. Papa put on baby's hood and cloak and she went out for a walk, then she cried and papa came and got her." She gave a satisfied grunt as if he had expressed what she had been living over again in her mind. She was much interested in a kitty, and pointed out its nose, eyes, ears, etc.

At twenty-two months she often tells the story of an experience by a word and a gesture. For example, "Face" with gestures toward a pail of water indicated that she had a short time before put her face in it. One day she seemed to be engaged in "make believe" as she several times came in and went out waving "good-bye," her eyes shining as if she enjoyed the play. She was much excited by a cot bed falling with her mother and told about it in three words, each repeated several times: "Bed, bed, mamma, mamma, fa, fa" (fall).

The following notes indicate the ability of this girl at twenty-three months to follow a story. She had been interested in stories told, but she had only once showed interest in a story read to her. That was a story about crying (something she has indulged in a good deal when crossed). When told about a little girl who did about the same things as she did and wore similar clothes, frequent pauses being made for her to grasp the idea, she seemed to follow it pretty well, often repeating the words that meant the most to her, and sometimes putting her face in her hands and laughing. A few weeks later she was much interested in listening to a story read to her, and soon after, in other stories. When being read to, if the story has many unfamiliar words she turns the leaves of the book for the next story and listens to it if it proves interesting.

At two years, often noted resemblance of pieces of food to a dog, bird, baby, kitty. When questioned was able to point to various parts as head, leg, etc. She called a potato with a pointed end and a curling stem at the other end, a "dog." She called a piece of bread "Po (poor) baby," and pointed out its various features when asked to do so, but showed little appreciation of

relative positions, naming as an "ear" a part entirely separated from what had suggested the face to her.

The following stories were told by Professor Chamberlain's little girl before she was three.

"There was a little dirl digging in the tow (snow) and when she fell down she bedan to try, and she dot up and she wan home to her mamma and she toll her mamma, 'I broke my leg.'"

"There was a little dirl who jumped up and down. Who ditted (got) in her funny tart, and her mamma took her out, and her mamma buyed her a brura (bureau)."

Memory. Habits are very readily formed during this period and it is hard to tell when a child's memories become something more than conscious habits. When a situation suggests not merely a movement that has been made before but an idea of what is going to follow, as when the sight of a hat and carriage suggests the idea of a ride, one is likely to think this is evidence of memory but it is probable that no idea of past experiences is formed in such cases. The present situation is partly identified with a previous one and suggests what is to follow, without involving any reproduction of the past experience. When the situation has occurred only once, as when a child gets something that he wants, not from its usual place but from where he placed it the day before, the act appears more like memory, especially if the immediate surroundings do not directly suggest the object, and he must go somewhere else to find it.

The case is still clearer when a former experience is recalled, not by surroundings but by words, and the child then names something in addition to what has been mentioned. It is possible that this may be done without the child thinking of the past as past, but merely

living it over again by the help of words and images without recognizing that it is a reproduced rather than a real experience. If the experience is contrasted with the present real situation, there is also involved to a greater or less extent a consciousness of the self that then experienced what is being recalled, and is now in a different situation. This is memory in the more complete sense. A little girl of about two years was apparently living over an experience of the day before as she stood looking off into space, saying, "Boy. Ride. Bye," with a wave of her hand. Some one seeing her laughed and she hid her head a moment as if embarrassed. The contrast between her reproduction of a former experience and the present situation probably produced the first consciousness of self.

Before the close of the third year children often give little narratives of incidents that occurred days, weeks and even months before. This, of course, indicates memory in the full sense of the word, and such memories are sometimes retained in later life. A study of early memories, however, shows that many people have no conscious memory of incidents before they were three years old, and few persons have many memories dating earlier than this age.

Illustrations of Habits and Memories. Girl of one year seemed to remember where a brush had been placed several minutes before.

Boy of fourteen months. Very curious about a persimmon that was placed on the window sill, and the next day when under it, but not where he could see it, made noises indicating desire to be shown it.

Boy of sixteen months wanted a watch charm opened that had been opened for him several weeks before.

Girl of fifteen months showed evidence of remembering where she left her cushion ten minutes before.

Boy of sixteen months, after having kissed grandma before being taken upstairs to bed a few times, did it not only at night but once when taken up during the day.

A girl of one and one-half years went to where her cloak had been placed a week before, as if she remembered.

A girl of one and one-half years objects to having shoes put on before other things which had usually been put on first.

A girl of two years always wanted usual order carried out even though it was not pleasant to her.

Another child about two and one-half, after being punished for an offence several times, committed the offence again, then called attention to it and held out her hands for punishment.

A girl of twenty-two months told of an exciting incident of the previous day, in three significant words, "Mamma, cot, fa" (fall).

A girl of two years knew what was meant by "toad" although she had heard the word but twice and that two weeks earlier.

At twenty-five months a girl started playing creep mouse when the place and other conditions were the same as when she played three months before.

A girl of thirty-one months truly said that some stitches in her dress had been made by her grandma, although two months had elapsed since the dress was made.

A girl of three years mentioned in the winter many events that occurred the previous summer.

Imagination and Thinking. As the child's power to image develops, he becomes less dependent upon immediate sensory stimulations and does a good deal in the way of reproducing interesting experiences that occurred at some other time. This internal activity of producing again and working over past experiences often becomes prominent during this period but not usually dominant until the next period.

It begins in imitating acts some time after they were perceived, and increases as imitations become more dramatic, suggesting the whole situation rather than merely reproducing in detail the movements of the persons imitated. Words are generally used to help out the suggestion of the whole experience. Soon the child, instead of portraying by pantomime and words a single experience, puts together parts of several experiences so as to make an interesting situation. He thus enters the realm of fancy or creative imagination in which he plays with images instead of with objects, a realm in which he is likely to dwell a good deal of the time during the next period. Even at this stage he may tell little imaginative stories modeled after his own experience or stories he has heard.

The concepts of the child at the close of this period, although very numerous, are not usually developed much beyond the perceptual and imaging stage, while reasoning is largely imaginative activity. The child distinguishes perceptually between many classes of objects. In this respect he is superior to the higher animals in number of discriminations rather than in definiteness.

There is, however, little tendency or power to form ideas of the essential qualities of different classes of

objects, and ideas of what is to be expected of them, except in terms of concrete images of parts of particular objects and experiences to which the child's attention may have been directed.

There is often some attempt to generalize from several particulars, as when a child says, "Mamma is going, Papa is going, sister is going, everybody is going." Some generalizing and reasoning are also shown in the use of language forms, best illustrated perhaps in the tendency to follow general rules in adding *s* or *ed*, e. g., "mans," "breaked," instead of the irregular forms "men" and "broke."

There is also much noting of similarities and relations of objects and events and inferring as to what things are or what will happen, but there is little or no general abstract thinking. There is, however, much development of habit and imaging tendencies that prepare the way for more general and abstract thinking and reasoning later.

Illustrations of Imaginative and Conceptual Activity. A boy of two years engages in imaginative play with his sister, e. g., eats imaginary candy; one says, "Want to go to mamma," and the other, "Well, you may if you are good."

At twenty-six months he takes very well the part of a sick or lame child in imaginative play with sister, playing sometimes for hours.

At twenty-eight months he plays he is a dog or kitty for long periods of time.

At thirty months he will for days insist that he is a kitty, but if his father says, "I don't want a kitty," he says, "I a boy."

At thirty-one months, when getting ready to go to

the woods, said, "I going to the woods, then I won't be here," indicating a tendency to reflective thought.

At thirty-two months he said to his father, "Will you be here when you go away?" as his father was getting ready for a journey.

At thirty-five months he was playing with his sister, he having the part of a bear. She told him not to talk, that bears did not talk, when he said, "What they have a mouth for then?" She said, "To eat." He said, "Oh!" as if that were a new idea to him.

EXERCISES.

1. Give illustrations of imitations by children under three years of age.

2. Describe the earliest instance that you know of a child giving evidence of appreciating the mental state of another.

3. Describe instances that show that children do not clearly distinguish between their own mental states and those of others.

4. Describe instances of children doing things to attract attention or get approval.

5. Describe instances of shyness or of fear.

6. Describe instances showing the influence of dress upon a child's ideas of self.

7. What is the earliest age at which you have heard a child use "I" correctly.

8. Describe any instance that you know of emotional experiences before the age of three, the effect of which lasted for many years.

9. If possible, study and describe the progress of one child in learning to talk and the corresponding development of ideas.

10. Describe instances of actions and words of children under three that you think show a strong tendency to habit

formation. Compare some habit actions with what seem to be true memories.

11. Construct stories that you think will interest a child of about two and one-half and try them if you can.

12. Report instances which show perception, imagination and reasoning of children under three.

CHAPTER VI

PERIOD OF INDIVIDUALIZATION

Characteristics. Social influences remain very prominent during this period but the child comes in contact with more persons and the direction of development is somewhat different. The child has accumulated a vast amount of mental material from his physical and social environment, which has become organized into a conscious self. Within rather wide limits the child now has control over his mental life independent of things and persons. He now takes his place as a distinct personality who is trying, as are other persons, to get all the pleasant and harmonious states of consciousness possible, both in imagination and from real things and persons. Although he has many mental states in common with others, yet he has a considerable part of his mental life all to himself. He is no longer simply absorbing by imitation of other people but is more selective of what shall be imitated and accepted. He attempts to impress his mental states upon others and is often more interested in doing so than in receiving from them. He is also usually introduced at this time to a wider physical and social environment than that of the home. It is, therefore, preëminently a period for more complete mental reorganization and the development of the human personality into an individual personality.

The child has, by native endowment, a great deal of individuality almost from the first, but during this period he more consciously and intentionally modifies and

develops his mental individuality. So completely does he do this that the mental characteristics that are prominent at the close of this period are generally retained till the period of transition at puberty. A child of six may be quite different from what he was at three, but at twelve he is very likely to have the same general characteristics that we knew when he was six.

Self-Assertion. In order that the new conscious personality may be individualized, the child, instead of sharing and absorbing the mental life of others all the time, must act independently and organize his experiences in his own way. This seems to be the reason why nearly all children near the age of three years become more independent and usually show more or less contrariness.

Sometimes individuality is developed without any distinct break with other personalities, but very frequently there is a distinct period or at least occasional spells of contrariness. These may of course appear at any age when a child is not well or when he has been dealt with in an untactful way, so that his wishes seem directly opposed by those of another; but healthy children who are wisely dealt with often show contrariness during this period. The child has been imitating others and following their suggestions so much that reaction seems necessary in order that the individual self that has just begun to appear shall not be lost in the common self. The more conscious form of the instinct of self-assertion therefore becomes active and the child, instead of doing as others do or as he is commanded, may do something different, usually the opposite, and rarely nothing. This may be done with a smile and with enjoyment of the novel experience of acting against, instead of in accor-

dance with, suggestions. This may be more enjoyable and require less exercise of ideas and will than to do nothing, which is the condition in some forms of stubbornness. In many cases of so-called stubbornness, however, there is real inability to act instead of determination not to act. The actions of a child in the contrary stage may sometimes be directed just as effectively by contrary suggestions as they could in the former imitative stage by imitative suggestions.

If the relations between the child and those around him have generally been pleasant and a consciousness in common with others has been well developed, this contrary stage may, and perhaps should, be very short, and with tact it may be passed through without unpleasantness. The child finds by his own experience what works best and what does not. His individuality of feeling is allowed within certain limits free exercise and he begins to develop and act in the line of his own natural taste and aptitudes. A conscious individuality develops from the unconscious one of native tendencies and acquired habits and the common consciousness of the previous stage. His conscious self becomes a differentiated, self-active portion of the common consciousness of the family, without a distinct chasm being formed between himself and others.

The child still imitates persons but it is in their absence more than in their presence. In such cases he often plays that he is those persons. By thus pretending that he is what he is not, he realizes more fully what he really is. He also broadens his personality, and by making himself what he pleases, learns something of what self-control means and begins to form the kind of self that accords with his native endowments and gives

the most pleasurable results. In actual experience he is likely to find that the sort of self that harmonizes its activities with those of other persons is most agreeable, and such a self is consciously chosen and developed, though when irritable, the self of an opposite type may be assumed.

The above is probably the more usual development of conscious individuality under favorable home conditions. In a large number of cases, however, even when the common consciousness has been well developed and the child's own personality has been only temporarily in conflict with that of others, it often happens that in this critical stage of developing conscious individuality, sharp conflicts arise between the personality of the parent and that of the child, and there may be a distinct break in the common consciousness, with more or less permanent establishment of a condition of cross purposes if not of actual antagonism. This result is often brought about in part by parents who suddenly decide that it is time for the child to learn to obey and begin treating him in an entirely different way from their former loving, playful manner. The parent may by punishment and rewards induce the child to obey, but may lose nearly or quite all of the influence he formerly exerted by means of the social factor of personal, conscious suggestion. The child may come to care nothing for approval or disapprobation, as such, of the parent, but only for what they signify in the way of results to follow, or he may even delight in exciting disapproval, especially if the results are not very painful. It is an enjoyable play or sometimes a means of retaliation to stir up the one in authority and, in a way, make him perform.

In the preceding period the child's emotional life received a strong impress from the home influences, but it is during this third period that the basis of active volitional character is formed and his general attitude toward authority determined. He learns what is expected of him and forms ideals of conduct that may either accord with or oppose those expectations.

If he has a strong personality, wise must be the treatment, if he is not to become a diminutive but successful outlaw and apparently a hardened criminal. If, on the other hand, the child has rather a passive personality he may easily be developed by a stronger personality either by approval or by force, into the semblance of an inoffensive, law-abiding citizen with regular habits, who conforms to the directions given him without question.

A weak parent who tries to direct a child's action by precept and persuasion, may ere long find that the child, through having his personality recognized and his desires gratified, has developed his own personality so that he, instead of the adult, exercises the stronger influence, and his wishes determine the action of both. If the weak parent tries force but does not always succeed, the child, instead of being trained as the parent wishes, is developed by the exercise in the contrary direction. Such persons will often succeed better through example and incidental influence without attempting to control or mould the child in a direct way.

A high degree of wisdom is necessary in order to preserve the common consciousness and at the same time allow the individuality of the child to have a free and full conscious development, rightly related to other personalities. Details cannot be given but the following

general statements may be made. (1) Unconscious habits of the former period that are desirable must be preserved. (2) A common consciousness must be maintained by engaging with the child in common activities for common ends. (3) He must be allowed some degree of freedom of choice and action with opportunity to know by his own experience what the results of his actions are. (4) He must be induced by physical force or by personal influence or by incidental or direct rewards or punishments to do those things that he would not otherwise do, that are necessary to his safety and the happiness of himself and others. The wiser and more tactful the parent the less prominent will be the last factor, but it probably cannot be entirely eliminated. The child needs to know of a person stronger than self against whom it is useless to fight. In other words he should learn obedience whenever it is demanded, which should be rarely. So far as possible obedience should bring pleasure rather than disobedience pain. Thus obedience will be most of the time not a mere habit or a conscious choice of alternatives but action in accordance with his own desires and interests.

Illustrations of Contrariness. Boy of three years. Alternated between desire for approval and contrary action. He might call for something to eat, then refuse it; or he might eat, then declare he had not been given anything. Sometimes he said that he had "no papa, mamma or anybody." He sometimes transferred the contrary action, saying for example, "Mamma won't get me any supper," when she was at the time getting it.

When put in another room after being punished for naughtiness he cried, and when told he could come out when he was a "nice boy" he said he was not nice and

would not come out. Finally he said he was nice, came out and kissed his mother and was better for several days. It seemed in his case, during this period and later, that he must either be in complete harmony with his parents or in active opposition, but *never indifferent.* If given a little time the "nice boy" would often come again without any persistence in the wrong mood and action. After a naughty or contrary spell he was usually much pleased when the "nice boy" came again. Sometimes a storm and some little punishment seemed necessary before he could get himself in the right attitude.

One day when he was fussy at dinner and was finally sent out into the other room till the "nice boy" could come back, he went crying and saying he would never come back. After some time he opened the door and, apparently with an effort, smiled. He was welcomed and behaved very nicely.

When contrary he would often refuse what he had just been asking for. One day he became contrary and said he would not go to have his picture taken although he had been wanting to go. His father acted as if he did not care, saying his sister could go. When he wanted to go down cellar with his father he would not let him go unless he was going with him down town. He said he would go and his father said he would like to have his "nice boy" with him, but did not want the other one. He went and was very good.

When forty months old he struck a servant girl with a file and was told by his father to put it in the drawer. He threw it down in anger and stamped his foot. The command was repeated and, crying very hard, he obeyed. He was told to close the door and for a moment acted

as if he would not, but did. He then sat down crying and was told that we could not hear the reading and to "go out till my nice boy is ready to come back." He went and got down on the floor and kicked around. His father closed the door and he cried angrily and presently kicked it. He was told to stop, and after crying a little longer opened the door and made a noise to attract attention, trying to look pleasant. When asked if he was "my nice boy" he nodded and got in his father's lap and put up his mouth to be kissed.

For a time when about three and one-half he was quite variable, being loving one minute and contrary the next, instead of having a contrary spell and getting entirely over it and being very pleasant for some time. If his parents had no time to give him any attention and then refused him something, he often became contrary. He was very loving when he could help them do something or when they played with him.

Self and the Opinions of Others. Language during this period plays a scarcely less important part in the development of the conscious individuality of the child than it plays in the preceding stage in the development of ideas of things. Whatever phase of the child's conduct receives a name, gains thereby a more prominent place in his consciousness, and his knowledge of the characteristic usually tends to increase rather than decrease the kind of conduct with which it is associated. The naming of undesirable characteristics should therefore be avoided as long as possible while desirable ones should be named as soon as they can be understood and should often be mentioned. Froebel very properly emphasizes the naming of characteristics that are desirable as an important means of cultivating them. The effect

is much the same and probably greater in degree than when the acts of other people are set before the child as models to be imitated. The child is really his own model and his self-imitations are serious rather than playful.

If, besides being brought into clearer consciousness by being named, characteristics are ascribed to the child by the words and actions of those around him, he is likely to still further emphasize them in his actions and in his thoughts of himself. As we have already seen, the child in the preceding stage has his ideas of things moulded by the opinions of other people, so in this stage, when he is getting a clearer idea of his own individuality, he is guided not only by his observations of the difference between his conduct and that of others, but also by the opinions people express of him at this time, and the way in which they act toward him, as compared with their treatment of others. If they say he is timid, he acts according to that characteristic, unless he happens to be in a contrary mood; if they say he is bold, he becomes bold; if he is described as naughty, he lives up to the description. Such descriptions are especially effective if they are given to others in the child's hearing and apparently accepted by all. Great caution should therefore be exercised in speaking of a child in his presence.

In general he has not at this time a sufficiently well-developed personality and power of will to think what his characteristics are, and then try to make himself different from what he is. Even at a much later period this is difficult or impossible to many persons. The thought of what one is has a greater influence than the thought of being different, unless one has a very clear

idea of what is to be done in order to be different. It is much easier to think of the *kind of act* that should or should not be performed, and often has more effect upon conduct than to think of the *kind of person* one should be. The child may be told that a certain act of his is not the kind of act he should perform. This is far less objectionable than to speak of him as having the evil characteristic the act implies. It is better, however, to emphasize the acts that are to be performed, rather than those that are to be avoided, the undesirable one being referred to chiefly in such a way as to bring out more clearly the good acts that are to be performed.

There is no doubt that a large proportion of the cases of children described as "born short" or "born long" in one respect or another, are due to unfortunate blunders or marked successes that have attended early efforts and have been developed into permanent deficiencies or talents by being recognized and treated as permanent characteristics, leading the child in one case to decrease effort in the line of activity that is described as weak and in the other to increase it. For example, a boy of seven who was told he had no musical ability ceased trying to sing or to distinguish tunes, and for many years did not distinguish one tune from another, although his musical ear was not so defective as was supposed.

Wishes and Ideals. Rather early in this period of individualism, the child begins to form ideals, not only of what he would like to have and what he wants to do, but of what he wishes to be. These ideals are formed in accordance with what seems pleasant to him in fancy or has been learned by experience, or through the teaching of parents, or has been associated with approval. In fancy, the child becomes the possessor of all

desirable things, performs all sorts of acts and assumes various powers and characteristics. He learns by experience something of the possibilities of obtaining, doing, and being, has certain results emphasized by those around him and hears many directions as to what he should do. The ideals formed in this early stage play a considerable part in the child's conduct and development as is indicated by the following examples. Although the ideals frequently change and do not always control action even when stoutly held, yet the effects of ideals during this period may be greater than at any other period except that of adolescence.

Illustrations. A boy of about three was often induced to do what he feared or disliked to do by the ideal of being "Papa's jolly boy," "Papa's helper," or a "soldier" or a "nice boy."

When three and one-quarter years old, having shut the door hard one day, he said, "I guess I had better do that again," and did so carefully.

Once when he was tired and wanted his father to carry him, he was told, "If you are going to be my little 'mountain boy' you must learn to walk farther than this." He said in an undertone, "You always say that," then said, "I will," and started ahead. He walked the rest of the way, about half a mile, without complaint.

When a little more than four, after a good time playing, he talked about himself and others being good and keeping on getting better till "we get to be as good as God."

The story of a boy who was as "brave as his papa" is as great an incentive to courage as was the "Boy in the attic" story a few months earlier. For several days

he tried to carry out his ideal of making "everybody happy."

He planned for a gun and some cartridges when he should be twelve years old, and was going to work for the money, but the ideal was too remote and big to make him work at small tasks. He did not care to earn money except when he wanted to buy something costing the exact amount to be earned.

When four years old he said, "I am going to be braver and braver till I get to be as brave as papa." Soon afterward he hurt himself, and as he choked back his sobs he said, "I pretty near did n't cry a bit." A little later, influenced by the same ideal, he went in a dark room, though much afraid. He readily catches the moral of a story and says, "I am going to be brave," or, "I am going to be like that." He often wishes he were grandma, a baby, a kitty, an Eskimo, or somebody or something else, sometimes giving as a reason, a privilege, pleasure or power he would then have.

At four and one-half he said, "Don't you wish one arm was longer than the other?" ("Why?") "So you could use the long arm for long things and the short arm for short things." Probably he meant distances.

When five, at a time when he was more thoughtful than usual, he said he was going to drive the bad thoughts away and let the good ones come in. He told about sitting down in a chair at a store while waiting for his turn to buy something he had been sent for, and he got up when a lady or a little girl came in to see if they did not want the seat. "A little thought just seemed to make me do it."

A picture of Sir Galahad and stories of knights and

readings from Tennyson were much appreciated at this time and helped form his ideals.

He came one day to his mother, much pleased with this generalization: "Now, mamma, I will tell you something. I just found out that it is more fun to be good than it is to be bad."

Between five and five and one-half he was fond of making rules for himself and finally made this one: "Now, mamma, I have made a rule that I think ought to be a great comfort to you. I am going to be good all the time."

He sometimes adhered to ideals several days, or even weeks, but when ill or fatigued or crossed he was likely to have a spell of contrariness.

Boy of six. In praying said, "Dear Father, I 've been so bad for five or six weeks, now help me to be good for five or six weeks, so I can have some candy and to make up."

Girl of four. After hearing a story about "Sally Smiles and Dolly Dumps" tries to be pleasant. Sometimes says, "Dolly Dumps has gone," or "Sally Smiles has come."

Girl of four. Made New Year resolution when others were making them, "Not to talk loudly or be cross." At about this time she said, "I wish I could be a baby again and not grow up." ("Why?") "So I would n't have any dollies to take care of." ("You don't have to take care of them.") "But they want me to take care of them. You ask my baby if she don't want me to take care of her."

Self-Direction. During this period of self-assimilation of the experience of the former period, and of individualization, a large amount of healthy letting alone

is probably the thing most needed by a large proportion of children. Some direction by older people and some association with children of their own age are desirable, but a considerable portion of the day should be free from definite direction by others.

The child should have opportunity and facilities for a great variety of play, and some suggestions as to what may be done, but he should be urged to act in specific ways, or prevented from acting in other ways, only so far as is necessary for his own present good and the comfort of those around him. Little or no attempt should be made to immediately modify him according to adult standards of what he should be. Conditions should be made unfavorable for the repetition of bad acts and should be favorable for the continuance of good habits and the formation of others, but the child should be actively directed by some one else, only a limited part of the time. Many of the directions may be mere suggestions, yet quick and instant obedience may be required with advantage, in certain cases.

In this kindergarten age Froebel very properly emphasizes self-activity, but in a large proportion of kindergartens almost the whole of the supposed self-activity of the children is either intentionally or unintentionally excited and directed by the teacher. The condition is well expressed by a little girl who, when asked about her first day in the kindergarten, said, "I wanted to do the things Miss —— wanted me to, but I did n't want to do them." In many cases, of course, the children are not clearly aware that they want to do things simply through the teacher's influence, yet such is frequently the case.

The kindergarten also properly emphasizes the pro-

duction and preservation of a common consciousness with others in the group, as has been the case in the home, but it often overemphasizes this phase at a time when individualization of the self should be the prominent feature in development. It is too early to develop social feeling as it exists in adults, and there should be little more done in a social way than to widen the common family consciousness so as to include that of the kindergarten group, while the individual consciousness is being organized in accordance with native tendencies and acquired experience, with incidental suggestions from the example of others and a few positive requirements. The higher form of social development can come only after the development of conscious individuality and a long period of association with other personalities in the same stage, involving competition and opposition, as well as coöperation. The crude common consciousness and dependence of the child upon the group cannot at this stage be developed into a genuine and permanent form of coöperative feeling and acting, as some kindergarteners seem to think. The kindergarten spirit, so beautiful to see and feel in the kindergarten, is only a temporary heaven that cannot exist outside. It can take on an enduring form only at a later stage, after competition with other individualities.

It is worth while to prolong the sympathetic common consciousness of family life and broaden it in the kindergarten, but to attempt to push on the process of social development in this direction at this stage, is useless. It is also a fine thing to give children who are in homes where a common consciousness is not felt, a glimpse of this heaven that has been denied them in the home, that it may later serve as a symbol of the highest

social and religious ideals. So long as children of only three or four are in the kindergarten, the emphasis upon this side, if not too great, is salutary, but for older children who should be acquiring a stronger individuality, the results are often nil or undesirable.

Children undoubtedly at this stage need some new experience, some incidental influence of others and some intentional direction, but the periods should be short with long intervals in which the child may mentally go over them, and in dramatic and constructive activity may combine them with older experiences.

Mischief at this time is not usually best prevented by keeping the child busy at tasks, but by arranging his surroundings so far as possible so that he can do as he pleases and not seriously harm himself or anything. Some one at hand a large part of the time ready to take the lead, suggest and direct, is probably a distinct disadvantage at this stage. The child, if healthy, is sure to be active a large part of the time, and what he does of himself and in natural association with other children, gives better training than positive direction by an adult; yet an adult who knows how to lead can by occasional suggestions give the proper trend to the child's whole moral development.

The best test of what is done for children during this period, either in the kindergarten or elsewhere, is the extent to which the things they have done under direction, influence their play activities when they are entirely free from the dominating personality and suggestions of the one who has directed them. No matter how great the seeming utility of what is being done during directed activity, it belongs (if at all valuable) to another period of development, if it does not modify the

child's activities when left to himself, after the period of directed activity is over. The child's business at this time is not to learn to know and do things that will be helpful in adult activities, but to develop his own personality by assimilating, according to his interests, his various experiences, by some form of active doing and imagining.

Learning to Distinguish and Express the Truth. On the intellectual side, this period of forming conscious individuality is a period of forming ideas and standards of truth. The child has become acquainted with things and persons well enough to know what to expect from them separately, and has acquired a language by which ideas of them may be aroused in his mind and the minds of others, but of the more complex relations of things to each other and the reasons for bringing them into certain relations and the means of doing so, he as yet knows little. It is in getting this knowledge that he asks his multitudinous questions. The questions are now no longer chiefly, "What is that?" but "What is that for?" "Why do you do that?" "How do you do that?" In thus questioning he is learning both the laws of the physical world and of human conduct. The answers to these questions the child can often get more quickly from others, but more effectively from experience and imitation. The process is a slow one if he learns only by his own experiences, but the knowledge gained from what others say is often superficial, if it is not supplemented by experience. To fail to answer the child's questions severs an important bond of union with him and delays his mental development, but to answer his questions so continually and so completely that he comes to depend upon others

for what he can more effectually acquire for himself, is unfortunate, tending to make him limit his observation and become theoretically rather than practically wise.

Sometimes the asking of questions becomes such a confirmed habit that the child does it when he has nothing else to do and has no real interest in the answers, further than to keep up communication with some one. Children who go to excess in asking questions instead of acting and reflecting for themselves, have their thoughts moulded for them, and, therefore, have few of the quaint and original ideas that often constitute the charm of this period and would be of still greater interest if we knew just what was passing in the minds of these seemingly less inquisitive and expressive children.

This is a time when the influence of others is best exercised upon the imagination of the child. Much of what he does when alone is suggested by what he has seen others do. His imitative plays, both when alone and when in company with other children, are directed by what he has seen. In thus acting out what interests him he acquires control over the characteristics he assumes and enlarges and organizes his own active personality. He becomes in some degree all he imitates, and by original and dramatic combinations of his observations, in his play, increases his own mental experience.

In the early stage of individualization the child, though realizing his own individuality to a greater extent, does not as yet separate it from a common consciousness in which others share. He may not know that other people do not know what he is doing or thinking. It is a very interesting experience when he realizes that he can have little secrets known only to

himself. "Did you see me?" is often for a while a frequent question. He delights not only in having special knowledge but in revealing it, thus giving something back to other minds or to the common consciousness from which he has hitherto been only a receiver. It is partly for this reason that he enjoys, a little later, telling news and in general expressing whatever ideas come to him.

The child is often not sure of his observations or the language in which he expresses them until his statement is accepted or endorsed by some one else. For this reason many children insist on some kind of a reply to every remark, e. g., "That is a big dog, is n't it?" "He is going home, is n't he?"

Previous to this there may have been more or less instinctive concealments and deceptions, but now, when the child realizes that others were not present when he did something or may not know what is in his mind, conscious deception is possible and almost sure to appear in some form. It may be in a play form in which the child tries to mislead some one for fun. This is really one type of imaginative play that is of great help in distinguishing between the true and false. This power of distinguishing, of course, also makes it possible for the child to become a conscious liar or a conscious truth-teller instead of merely expressing what comes into his mind without really knowing whether it is an image of actual experience or not.

When a child not only knows what is true and what is not, but knows by experience when he can probably deceive people, he may and very probably will attempt to do so when some pain or loss is likely to come from expressing the truth. In other words, deceiving is

then no longer a play, but a means of avoiding undesirable consequences and securing those that are desirable, and hence is real lying. If he tries this means and it works well, he of course continues to use it. If he is in very sympathetic relations with others, the deception makes a break in their common consciousness that is uncomfortable and leads to confession, but if he is not in such relation there is no reason whatever evident to *his* consciousness why he should not use deception for his own ends, just as he uses any other power he has acquired. Under conditions of antagonism to others and of greater or less success in deceit, he becomes a habitual liar in spite of occasional punishment. He may say, as he has been told, that lies are wrong, but still regard them as useful. This was, perhaps, unconsciously expressed by a boy who defined a lie as "an abomination to the Lord and an ever present help in time of trouble."

Sometimes the habitual liar is one who has never learned to distinguish between memory and imagination, while in other cases he has distinguished between them, but for ends of his own has substituted one for the other, both in words and actions, until he has become incapable of discriminating clearly between the two. In other cases the discrimination remains clear and a good memory and power of dissimulation are acquired as a matter of necessity, in order to be successful as a liar and accomplish his ends among people who speak the truth.

In reasonably favorable surroundings the child who tries lying finds that, though it sometimes works well or works for a time, yet unpleasant results come either in the form of punishment, ridicule or disturbance of so-

cial relations with others, so that he gives it up except under unusual stress of fear or desire. Deception is the principal means of defence of weak creatures, whether human or animal, when exposed to danger from the strong. Fear is the principal cause of lying becoming a habit. Without it most children would find truth-telling more serviceable and satisfactory.

Lying and truth-telling are very important activities in the development of the moral sentiments. They bring into clearer consciousness the child's relations to others. In much of his conduct when others are not present, there is the thought of how others would view the action, and according as the child thinks the conduct would be approved or disapproved does he have an impulse to reveal or conceal it. His feeling of the approval or disapproval of others becomes his conscience. This conscience becomes stronger and enlightened in proportion as sympathetic relations are maintained and free communication kept up between parent and child. It becomes weak or perverted in proportion as sympathy is destroyed and the ideas and feelings of each toward the other are misunderstood and misrepresented.

It is as important for a child's intellectual development that he shall learn to distinguish clearly between real experiences with persons and things, and those that he images, as it is for his moral development that he should act and speak in accordance with what he knows to be real. The way in which the child gains such ability is surprising and instructive. It is in general the method of playing that things are not what they are and thus bringing into contrast the real and the imaginary.

One of the most interesting ways in which this is

done is in connection with imaginary companions. Striking cases of imaginary companionship, when first described in print, were supposed to be exceptional and confined to imaginative children who were alone a great deal. Further study, however, shows that nearly all children have such companions at some time and that being by themselves merely gives such personalities greater prominence and more permanency. In some cases they are continued for years, sometimes into adult life, the characteristics of the imaginary personages developing and changing as their creator grows older.

In an imaginative child who is alone a good deal or whose companions are not congenial, a semi-pathological condition may result, in which the subjective factor of conscious selection becomes so strong that the creations of fancy maintain themselves against the importunities of sense perception, so that the imaginary is accepted as the real and the individual becomes subject to hallucinations, as was Joan of Arc. All play of children involves this setting up of the imaginary in place of the real, but active play and contact with people furnish a natural correction of this tendency, which is dangerous only to the quiet, lonely brooder.

To the child who not only imagines but acts out and tests his imagining, the contrast between what is imaged and what is sensed, develops both his imagination and his power of accurate perception. The child who actually tastes the mud pie he has made is strongly impressed with the difference between his imaginings and his sensations. If he does not taste it he lacks the sensations that he remembers accompanied the act of eating a real pie and thus feels the difference between the remembered and the imaginary pie. The more he ob-

serves and then imitates in dramatic play, the more frequently is he impressed with the difference between real and imaginary experiences. So long, therefore, as a child acts out his imaginings regarding objects, there is not only no danger of his becoming "too imaginative" but a certainty that he is getting a good basis for knowing the truth by learning the difference between the imagined, the remembered and the objectively real.

The growing power of the conscious life is, however, strikingly shown by the fact that the imaginary can be made to dominate over the real sufficiently to give delight during a long period of play. Only what is agreeable is permitted to survive in consciousness during this play time. It is during this period that the joys of imagination first become greater than those of real experience.

The case with regard to persons is much the same as regards things. The child tries to act like some one else but usually feels the difference. He imagines other persons doing and saying certain things but knows that the real persons act and talk differently. In the case of his imaginary companions, however, he has more complete control and hence often greatly enjoys them, but when he occasionally plays with real children he is newly impressed with the difference between his imaginary playmates and the real ones who are slower and less conformable to his wishes, and thus he naturally distinguishes between the imaginary and the real. If in contact with other persons he is also impressed with the difference between the imaginary and the real by the fact that other people generally ignore the imaginary object or companion while they recognize the real. Sometimes the child is angered by this because in the absence

of a social support his imaginary situation cannot survive. This is the reason why some children engage in imaginative play, only when with some other child who will act as if the play were real. If not angered at being called Johnny when in imagination he is the "big Indian chief 'Eagle Feather,'" the child may correct the speaker and try to get his support for the pleasant illusion.

It is thus by the constant contrast between the real and imaginary in the child's plays that he becomes capable of knowing the truth in a far more accurate and intimate way than he would if his imagination were used only in representing in memory what has actually occurred. He is far less likely to believe a thing simply because he wants to believe it, for he has done that too often to be deceived. He is not so ready to accept the opinions of others as to whether things possess the characteristics named, because he has often compared his perceptions with his images. His testimony will be more reliable because he has probably more often distinguished between memory images and free images. He is ready to appreciate figures of speech without taking them literally, a thing almost impossible to one who has never engaged in imaginative play, and he is quick at getting the "moral" of imaginative literature of all kinds; hence in this playful and perhaps, to the methodical teacher, seemingly absurd way, he becomes a keen discerner of truth.

In contrast to such a child is the one who has had little or no imaginative play but has early been initiated into the hard facts of practical life, in which objects and activities are not for one's pleasure but are means to practical ends. He is likely to become a good worker,

literal, matter-of-fact, and totally unable to understand playful activities, comprehend figures of speech or appreciate imaginative literature. His practical judgment may be good as regards things dealt with in a perceptual motor way, but he can do little with imagined situations and cannot understand the motives and actions of persons differing from himself, as can the child of the preceding type who has in imagination been a score of different characters, had thousands of experiences not produced by his environment, and countless opportunities to discriminate between the real and the fanciful.

Illustrations of Imagination. A girl of three and a quarter wanted to make a pie, and was satisfied with rolling a piece of paper and putting it in the oven. Later she wanted it served at dinner.

She piled up some blocks to make what she called "beds."

She wanted some men in a picture to get up.

She said, "I play bear is coming and run quick before baby comes" (apparently baby was the bear).

She acted out her imagination to the extent of putting sand into her mouth for food and chewing pieces of cloth for candy.

She treats a stuffed cat and a stuffed horse as if they were babies, feeding them and putting them to bed when they "don't feel well."

Boy from two and one-half to three and one-half, often talked of an imaginary personage that he called "My policeman," who was to him a friend with great powers who did all sorts of wonderful things. "My policeman won't buy you any candy"; "My policeman does n't spill things"; "My policeman could lift that"; "Once I fell in the river and my policeman pulled me

out and took me home with him and gave me something to eat." "My policeman helped me when I was lost in the snow." These and similar stories were told to his sister who applauded them. He was ready to assert that his policeman could do anything that was mentioned, affirming, for example, that he could eat a cream pitcher when his sister suggested that.

One morning he inquired for his policeman as if he were lost and later repeated the inquiry and answer to his sister. Perhaps he had temporarily lost the power to imagine him, but he appeared to be present again later in the day. At this time he often called himself by the name of some one he knew, or wanted to be called "pony" or "mousie."

Once he said he had "lots of policemen." Sometimes he affirmed that his policeman told him to do certain things or not to do them. Later there again seemed to be a whole family of his policemen as he talked with his sister, and finally this family seemed to correspond to his own, yet with more surprising adventures and greater powers and remarkable possessions. His imagination was greatly helped by his sister's sympathetic questioning. Later, one member of the family seemed to be his sister idealized, but of the same age and nearly the same name.

He also talked about his imaginary kindergarten, sometimes telling his sister when he was not pleased with her that she could not go to his kindergarten or to his policeman's house. Playing with a boy who did not encourage his "policeman" imaginings as did his sister probably led to less talk about him. He showed much interest in real policemen, wanting to speak to them but being shy. Perhaps this also decreased the tendency to imagine.

A girl not quite three years old began talking about "my little girl." One day she said, "Must be a good little girl this morning," then looking up at her mother she said, "I talking to my little girl." When asked the name of her little girl she said "Stella." A lady had a few days before spoken of her little girl by that name. She then asked her mother's name, and when asked hers she gave the same name, and when told her name was M——, said, "My name Stella." It seemed that sometimes she identified the imaginary girl with herself and at others regarded her as being in the same relation to herself as she is to her mother.

At dinner the next day she held her head down and said something, then to her mother, "I talking to my little girl." Later, she moved over on the window sill and said, "Sit here, little girl." When using scissors to clean her nails she said, "I clean your nails too, little girl." Soon she began sticking the scissors into the carpet and said, "I clean my little girl's toe nails."

A few days later she said, "I bring my little girl in," and when asked her name said, "Miss K——" (using her own last name). She then went out as if holding something in her hand. When questioned about the size of her little girl, she indicated a length a little more than an inch. Some papers had been disturbed and when questioned about them she said, "My little girl do it."

Some days later she spoke of some one crying and said it was her "little girl," and in reply to a question, said she was on the bed. Asked why she was crying she replied, "She is hungry, get her some bread." When given some and told to give it to her, she started as if to do so, then said, "I can't. You give it to her." Per-

haps her imagination failed her so she did not know how to carry the play further.

A few days later when something was said about fixing the carriage she said, "My little girl break that." Again, upon laying something down she said, "'Fraid my little girl get that."

While looking at the image in the glass she said, "Little girl in there. Little girl can't come out."

Some days later her uncle asked to see her little girl and she went out in the yard calling, "C—— wants to see you," held out her hand and came toward the house as if leading some one. When she got in the house she opened her hand and said her little girl had gone to town.

Two months later she told a story saying that a man broke her little girl all up with a rake, and that a man cut her little girl all to pieces. Then she spoke of the similar fate of her "little boy," "kitty," etc., as her imagination became active, all apparently being imaginary creatures. She said her little girl and boy were dead. After this she said little more about them.

Illustrations of Deception. Boy forty months. Inclined to tell what was not true, including denial of mischief, but when told "Think now," he usually gave the correct statement.

A little later he took some candy and denied it. When sent into the dining-room to think it over, he took some sugar and denied that he had done so. He was sent to the parlor till he was ready to tell. After crying a while he came out and said, "I ate something white, but it was n't sugar." When asked what it was he said, "Pax." He was sent back and cried a good deal. He was afraid as it got dark, and was allowed a

light. He became hungry and sleepy but would not tell for about two hours. Something was then said about spanking him if he did not tell and he said he would whisper it. This was allowed and he whispered it to his father, then to his mother, and was very happy, saying, "I will always tell you just what I do. Nice boys do that."

After being in mischief several times at three and one-half years, he seemed for a while to think not of what he had been told but of whether he *had been seen*, often saying, "Did you see me?" or answering, "Don't you know?"

There was no prolonged contest regarding truth-telling after this time, although he was punished once or twice for telling falsehoods by having his mouth washed out. After this rather brief period of transgression and discipline he could always be relied upon to tell the truth.

Memory. It is only after a child has acquired a number of free ideas and become more definitely conscious of himself, that true memory is possible. Memory activity of the higher type is frequently very prominent in children four or five years of age. They delight not only in recalling incidents which occurred in an earlier stage, but in thinking more definitely of their own relation to them, evidently contrasting not only the incidents with the present experiences, but the self that then was with the somewhat different self that now is.

Few people in adult life retain conscious memories of events that occurred before the close of the third year, while the majority of people retain at least a few memories of events occurring at from three to five

years of age. Very rarely individuals remember events that occurred before the close of the second year, while a few remember nothing that occurred earlier than seven years of age. In some respects memory activity in its purest form may be said to be at its maximum at four or five years of age.

Memory ideas are then perhaps more like the original experiences than they are with older people, who usually fill out the memory image to a large extent by their knowledge of what must have been, or would naturally be expected, if certain things were seen or done; e. g., a person in describing a fire or other exciting experience tells what it now seems reasonable to have done rather than what he did do, while ordinary experiences are described according to one's habits rather than according to actual memories. When one says, "I dressed, washed and came down to breakfast," he probably has in most cases no real memory of the acts described but merely a knowledge of his usual custom.

At an early stage of memory the child is to a considerable extent unable to appreciate events which occurred either when he was asleep or when for any reason he was not observing what took place. He is often quite sure that what he did not see did not happen. The fact that objects have changed their relations to each other while he was asleep, and the explanations given by others of how these changes took place, are an important means of enabling him to accept and appreciate events that he has not witnessed, and of giving him faith in the memories of other people.

Contrary, however, to what we might expect, the child is at first more influenced by others in his perceptions than he is in his memories. His memory images

are so vivid and so little contradicted by anything else in his consciousness, that it seems to him that they must be the truth, and perhaps the whole truth.

The child's dream experiences are often for a long time quite puzzling to him. They seem real to him at the time and when they are recalled he has no means of knowing that they are not memories of real experiences, unless he notices that they are not like experiences he has really had, or unless he finds that objects and persons are not and could not have been in the relations indicated by his memory representations. Even if such contradictions occur to him, he may often be puzzled at this time and perhaps occasionally for years, to tell whether the reproduced experiences are of his waking life or his sleep. He inevitably accepts as true whatever is not contradicted by other ideas, but it may be a long time before he is able to solve the contradictions that do arise.

It is in trying to solve such contradictions that he is induced to question his memory images and to test them by comparison with the actual and the possible and by inquiry as to the experiences of others.

Even in adult life, if one has a dream, the scene of which is located in the room in which he is sleeping, he may find it difficult to tell whether he is recalling a dream or a real experience. He can only determine the matter by seeing whether objects have been moved as represented in the dream, or by inquiring of other persons whether they heard or saw anything corresponding to his dream. For a little time, however, the child does little testing of his memory images by present facts and the testimony of others. He accepts as true what is represented most vividly and only to a slight

extent does he fill out the picture with knowledge of what is probable.

Memory is at this time, even more than ordinarily, concerned with the occasional and the unusual. That which is repeated day after day in much the same way has little place in conscious memory. Adults, when questioned as to their early memories, are likely to report incidents that occurred only once or rarely. They are incidents usually associated with pain or pleasure or emotional excitement of some kind, especially with feelings of surprise or fright.

There is good reason to believe, however, that although habitual incidents come to the foreground to a very slight extent, they are, notwithstanding, of profound importance in memory activity, especially at this time when the activities of the memory are being organized. In order that there may be occasional events to be remembered it is necessary that there shall be habitual experiences with which they are associated and contrasted. These habitual experiences constitute an important part of the self that remembers. They also become an important knowledge supplement to memory so that we can describe objects and events that we have not specifically noticed and hence could not have remembered; e. g., we know that a letter was answered and are sure of what we wrote largely because the letter is in the place where answered letters are kept and because of our usual way of replying to such letters. Habits serve at this time and later as an effective means of locating experiences. A child associates an experience with some habitual activity such as dressing, going to bed or eating dinner. If these activities are performed at about the same time every day and have

certain incidents always associated with them, they become important points of reference, by means of which the child can locate events which he recalls.

It usually takes the child some time to distinguish between morning and evening, and still longer to distinguish the different meals from each other. He learns to do this not so much by the difference in the things themselves, as in what he usually does before and after. Until some such points of reference have been established in the child's mind, he has no way of locating as to time, even the events of the day. Until he can do this, his memory is of course lacking in a characteristic that is quite essential in adults. The differences in the seasons and perhaps the greatly modified experiences of Sundays and holidays sometimes serve as points of reference for events occurring a longer time in the past. Often, yesterday means any time in the past, and to-morrow any time in the future. It is evident, therefore, that the child's location of events in time, for a long period, remains very indefinite and unreliable.

It is also clear that a fixed system of habits is a valuable basis for a reliable memory. It is helpful not only in remembering past events and in locating them, but in enabling one to think of future events at the right time, by thinking of what one is likely to be doing then, and associating the thing to be done with that; e. g., "I will think about that errand when I go to the closet for my coat, when I start home."

At this stage the associations of similarity begin to have an important place in the child's memories. In the earlier stage of memory, things are called by words or objects and then other events associated with them come to mind; now, however, it is not necessary that any part

of an experience shall be brought to mind in order that the rest may be recalled. The child readily recalls experiences in no way connected with what is now happening, except by some similarity in the experiences as a whole or in some part. When he hears the experiences of others he delights in recalling and relating any similar experience that he has had or heard of. This makes it possible for him to notice what is usually true of certain kinds of experiences, even though they are widely separated in time and have occurred to several individuals. By such acts of memory he acquires an extensive stock of general truths by which he tests his future memories.

In this stage the child has almost no power of *voluntary* memory; his memory is almost as completely subject to external direction as were his actions in an earlier stage. He may be utterly unable to tell what he knows, in answer to a question, unless it directly suggests something associated very closely with what he is to recall. He has a rich store of memory materials and under skillfully directed questions or suggestions these are brought to light in such numbers and detail as to rival and perhaps in some respects to surpass the memory of adults, who often fail to notice many things that impress the child; but often he cannot at will recall specific parts of experiences.

The child during this period can usually remember and express in words incidents he has observed, though it is often difficult to get from his accounts any clear idea of the *order* or the *time* of events. He also learns jingles, rhymes, and stories by heart, but cannot as a rule tell a story he has heard if he cannot remember almost the exact words.

Illustrations of Time Ideas and Memories. Boy of three years. His mother having promised to make candy "to-morrow," did so and as she gave it to him he said, "Is this to-morrow?" "No." And he said, "Then are you going to make candy again to-morrow?"

He was greatly puzzled by the fact that his birthday was gone, but that he had his birthday presents yet.

A girl of three wanted something "to-morrow, now." At another time, after being told that her feet grew when the rest of her did, she wanted "to have seen them grow."

Girl of three and one-third years used "last summer" to indicate distant dates and "last night" the more recent ones.

A boy of four was much bothered by the word "to-morrow" and to distinguish from more distant dates would for a long time, when told of something that was to occur "to-morrow," ask, "Is it the day after this?"

Boy of thirty-nine months often speaks of events at "little grandma's" where he was several months ago. In many cases he is known to be correct while in others he probably is, but others who were there do not remember.

When a young lady came who had been at his home six months before, he asked her to bury a can in the sand, telling her how she had done it when there before.

He gave the following correct account of events that had occurred four months before. "Mamma was gone to Boston and I was at Mrs. B——'s and you gave me a ride on your bicycle. Mrs. B—— took me home when mamma was come. You was n't there (at B's) at dinner. You was gone home. I don't know where grandma was."

A girl of four was able to say the whole of the story of Peter Rabbit as the leaves of the book were turned. Another girl not quite so old was able to correct any mistake in the reading of "The Pied Piper," although she could not repeat the poem.

Imagination and Standard Images. This is preëminently the period in which imaginative activity dominates, although it begins in the preceding period and remains prominent in the succeeding. The child plays with his images and uses them for his own purposes just as he at an earlier period played with objects. It is also a period of story interest, when the child not only enjoys picturing what is related, but delights to make little stories and songs of his own. In living in the story world of fancy he has the freedom and pleasure that is denied him in the world of fact, where things are in accordance with definite fixed laws, regardless of his wishes. At first he simply enjoys the events which he and others picture, but later he is led to compare these represented scenes with real ones.

In developing his own personality by his imaginings and his dramatic plays, the child forms and establishes more closely and firmly typical or standard ideas of the objects concerned. At the same time he is gaining from those around him more definite and usable standards of reference.

In addition to choosing as the standard form of objects the clearest appearance, into which all other appearances may be translated, thus enabling him to recognize objects in any position, he also acquires clearer ideas of the appearances of many objects, when seen at various distances. His color perceptions also become standardized, so that he thinks of a certain type of red

or blue when those words are named. He gains more definite ideas of the usual or standard size of many objects, and is surprised if they are unusually large or small. He also distinguishes qualities, such as sweet, sour, good, hard, more definitely.

He also learns to know a little of conventional standards of time, value, distance and quantity. The terms day, dollar, bushels, do not at first stand for accurate concepts, but they acquire some meaning and help the child to standardize his perceptions and to form more definite ideas in connection with language. By hearing these terms used in connection with daily experience, he forms the perceptual basis used for the more accurate images and concepts of the measuring units that need to be developed in the next period.

Not until standard meanings have been formed, can he appreciate descriptive stories. Such ideas are also necessary to his understanding and interpretation of pictures. The only key he has to the real size of pictured objects is the comparison that he may make between them and some familiar objects in the same picture, of which he already has a standard idea. Without such standard ideas also, there would be to a child no difference between stories of real experiences and fairy stories of giants, dwarfs, etc. On the other hand, fairy stories in which objects have unusual sizes, help to call the child's attention to the real size of objects, and thus, by contrast, to make his standards of size more definite. In a similar way, his ideas of other characteristics and of what is possible and impossible, are more definitely brought out as the story descriptions are contrasted with real experiences. The effects of imaginative stories are, therefore, very similar to those already

described for imaginative plays. In the case of stories, what is described in the story is compared with the ideas that the child has acquired of things and their possibilities, instead of being compared directly with sense perceptions, as in imaginative play. The child's delight in such stories is a more intellectual form of his pleasure in dramatic plays. The distinctions between the possible and impossible in stories, however, are not so clearly impressed upon the child as the distinction between the imaginary and the real in dramatic play. In order that these distinctions may be made, it is necessary that the child should do what he has a natural tendency to do, relate his own real experiences and hear the real experiences of others. His desire to make the distinction is often indicated by the question, "Is this a true story?"

In a large proportion of children, especially in those who have previously engaged in dramatic plays and are still interested in them, the interest in fairy stories remains very strong, not only in this stage of development, but in the next. Such stories offer greater opportunities for new mental experiences and for free activity of the mind in accordance with what is most pleasurable. True stories often fail to give the same pleasure because of the lack of novelty in the experiences described and the feeling that the persons and things are limited in the same way in which the child is, in dealing with real things. Listening to imaginary stories is therefore one of the chief forms of mental play at this time and sometimes the child himself makes such stories. In this stage his stories are often associated with his dramatic plays and acted out instead of told.

Story Interest and Ability. A boy at thirty-seven

and one-half months told the following story: "A kitty went away and something came after him, something big, and it was a wolf, two big wolves. And he did n't kill the kitty and the kitty had a ride on his back. The wolf asked the kitty where he wanted to go and he said, 'To Jericho,' and the robbers came and the wolf tried to kill the robbers." (He was then very fond of the "Good Samaritan" story.)

A girl of three and one-half seemed one morning to have discovered or invented fairies. She had been given no stories suggesting them, but came out of the parlor with her doll that had been "napping" and told about some little things that were under the sofa and that they were coming out into the dining room. "I saw them. They won't bite you." At breakfast she continued to talk eagerly about them and insisted that the door be left open so that they could come out. After breakfast she went and looked under the sofa and coming back said they were not there. It is possible that the tassel-like fringe on the sofa suggested the idea of little people.

A boy at four and one-half was much pleased with a story of some dwarfs, saying with wonder and pleasure, "They don't grow to be any bigger than me."

He often repeats little rhymes but frequently changes them just a little, e. g., "Hickory, dickery, dock, The mouse ran up the clock, The clock struck *nine* (or perhaps twelve), and down he run."

At five he was interested in almost every story that was read aloud in the family and often showed by questions and remarks that he got the main points of each.

From this time for several years he showed a great deal of interest in war stories. This was probably only

in part an outgrowth of his interest in guns, which was very strong.

"Hiawatha," "Little Lord Fauntleroy," and "Grandfather's Chair" were listened to with great interest at five and a quarter.

A little later he was much interested in "Boys of '76," especially in the account of the battles of Trenton and Princeton, which greatly excited him and made him rejoice and chuckle at the success of the Americans. In all these accounts of battles he asked frequently which side it was that was retreating or succeeding as the case might be, so as to make sure how the Americans were faring. He also asked and answered questions about the principal persons and events.

Between five and six he often "whispered up" stories just after waking in the morning. One was of two little bears. "They had guns over their shoulders. They were nice little bears and A—— (his younger sister) could play with them." There were also some other animals, deer, lions and tigers. "M—— (his older sister) and I invited them. We each had one. They could tell time and when the children came home from school they jumped over the fence to meet them. They would wake the family in the morning by licking their faces. They would dance when A—— played the piano."

One day when asked what he was laughing at, he told the following: "We all crawled through a little hole in the wall and when we got on the other side we were in 'Make-believe-land.' We each had a wand and we could change things when we wanted to. A—— touched a stick with hers (we told her to) and it turned into a snake with a fire cracker in the end of its tail. We had to be careful not to step on it else it would go off (chuckle).

"I took my wand and touched the schoolhouse and legs came on it and it ran away (chuckle). And when the teachers came next morning there was n't any schoolhouse. They did n't like that because they did n't get any money for teaching. Then the people came and brought a lot of things and built a new schoolhouse and I touched that and it ran away. Then they built another and I touched that and so on.

"Then I went down and told them if they would n't make me go to school they could build a schoolhouse and I would n't make it run away, but would touch it and change it into a palace. So they thought it was better to let one boy go than to spend all their money building schoolhouses. So they built it and I turned it into a palace, but I did n't have to go to school."

The following are samples of questions of a boy of five which indicate the attempt to obtain standard images of all kinds.

"How big is an elephant? How big is the biggest elephant in the world?"

"How long is twenty feet? What is the hardest thing in the world?"

A little girl of not quite four, on an electric car, spoke of the houses going by so fast, and when questioned, her answers indicated that she thought the houses that we were passing were really moving. At another time she thought some houses seen at a distance were really very small.

A girl who had been rather late in developing an interest in stories, was at four much interested in making up stories which she called "dreams." Sometimes they were fanciful and sometimes reasonable, like the following: "I dreamed that a little girl had a great big dog

and her mamma let her keep it in the cellar. They did n't mind having it in the cellar and it did n't hurt the cats. They had some cats, too. And the big dog had some little dogs that they called puppy dogs, and they kept them till they got big like the big dog." This child after having a favorite story, "Teeny, Weeny," read many times, began asking the meaning of various words and later was able to repeat much of it.

Between four and five she often made up little songs like this:

"I saw three stars in the sky,
And after that I saw four stars in the sky,
Are n't they pretty though?
I guess I will have you see them."

"The sun is rising now;
As the bright sun shines on the windows
It finds the queerest places,
It hides in children's hearts
And shines in children's faces;
It is rising now and is beautiful,
Is rising, rising, rising.
As it rises the sun is glowing now
And never shines where anybody's grandma is,
Because it is always raining there
If they live out in Minnesota."

The third, fourth and fifth lines were part of a song she had heard.

"As the silver moon is rising
And the little bells all over the garden,
As the silver bells ring
And the silver moon rises and rises,
And you go past the silver rills
As the golden moon is rising."

Concepts and Reasoning. The standard ideas which the child forms from his repeated perceptions and from

mental images aroused by accounts of the experiences of others, gradually assume a freedom from direct sense perception and from complete imaging, that entitle them to be termed concepts. The two chief factors in forming concepts are repeated experiences of the same kind and concentration of attention upon parts of successive experiences that are interesting, related or similar. Repetition plays something of the same rôle in the formation of concepts that it does in the formation of habits, but the process is more conscious and the attention is more focused upon parts of the experiences that are noticed under different circumstances. In this way conscious ideas are formed and freed from their surroundings.

For a considerable time there is little difference between the child's mental images and his concepts. As standard images are formed, however, the tendency to think these standards, in response to sensations or images, becomes stronger, and a standard image stands for many more possibilities than are represented, just as symbols do in the case of concepts.

Back of all standard ideas is meaning in the form of possible experiences. The possible experiences most frequently suggested are those involving action and having results of some kind that are interesting and usual. Many children are satisfied for a long time with imaginative activity only, while others are less interested in the mere activity of mentally picturing things, than in the relation of things to each other. Such children are most persistent questioners and their questioning is frequently not of a joyful, playful character, but of an intensely serious nature, as if they were entering upon the great task of solving the world's mysteries.

Their minds, instead of being filled with playful fancies, are continually occupied with reasons, relations and causes. They form many generalizations in accordance with their experiences and the answers they get to questions. These generalizations are usually submitted to others for approval. A large proportion of general truths are also obtained in answer to questions as to why things are done or why they are done in a certain way.

The child rapidly develops his concepts and his power of reasoning in his attempts to go beyond experiences and realize all the possibilities of anything with which he is acquainted. He asks how far a person can reach, how high he can jump, what things he can lift; or he follows up a line of questions as to what things will burn and what things will not, or asks about the biggest or smallest thing of a class that has ever existed.

His ideas of causes are extended by asking where things came from and how they came to be as they are. After a good deal of this kind of questioning he becomes much more ready to notice similarities and to engage in reasoning by saying that what he has learned to be true of one thing is true of a class or what is true of one class is true of another class; e. g., "Things that will run like water and milk will wet, won't they?" When told about electricity he says, "It is like air, we cannot see it." Children in whom this tendency is marked are not satisfied with the mere story or jingle, though they may enjoy it. They will question, for intance, about the dish having legs if it runs away with the spoon.

The questions often relate to the ultimate problems of existence and power. The little seeker after information may not be satisfied with the convenient and sup-

posedly final answer that God made things, but wishes to know "Who made God?" He is slow to accept any answer or reason as final and often goes over the same circle of questioning again and again. He asks not only about objects and about other persons, but also regarding himself and how he was made. Sometimes he may be concerned with psychical characteristics as well as physical powers. This is perhaps indicated by the remark, "We don't really see things with our eyes, do we?" and later, "What makes our eyes so we can see with them?" A child in this stage who has a strong tendency to reason, thus concerns himself not merely with practical problems in which his own pleasures are concerned, but seems to be continually seeking to get the numberless free ideas that he has acquired, organized into a system of relations. Almost every problem that may occupy an adult mind may be attacked in its fundamental form by the child at this time. It is a period in which the child attains a distinct personality and psychical individuality, and he is not satisfied till he organizes his ideas into some sort of a system.

In this stage reasoning is not only very active and acute but, as in the case of memory, it is of a pure form. An adult shrinks from drawing the natural conclusions from the premises set before him, because he foresees that they will not be agreeable or will not harmonize with conclusions he has previously accepted, but the child with only a small stock of general truths and with perhaps only two of them in consciousness at the time, draws his conclusions without any thought of how those conclusions may be related to something else. He makes many mistakes in his reasoning because of the limited number and inexact character of his concepts, and the

inaccuracy of the supposed general truths, but he draws with inexorable logic the conclusion that seems to follow from the truths that he is considering. It is in this stage of concept forming and using that the child comes to accept many ideas and truths as final, so that they are, thereafter, fundamental in his world of thought. In other words, he forms at this time his crude system of philosophy which during the next period dominates to a considerable extent all his thinking.

The relations between philosophy and religion are such that in their early development they are not usually distinguished from each other. This is a time, therefore, when the child also readily acquires religious ideas. To his questions in his search for ultimate sources of power and the highest possibilities of strength, wisdom, etc., he is given the answer "God." This idea becomes for him, as in the case of older people, a center for the organization of his thought. His idea of God is likely to be based on his idea of persons. He is the One who possesses all the desirable characteristics of persons that he knows and has heard of, only in a much greater degree. He develops an idea of God not only in his physical, but also in his mental characteristics, and he may come to have an idea of a common consciousness with Him similar to that which he has with persons. The thought of what God will think or feel with reference to his actions may take as prominent a place in his mind as the thought of what his parents or companions will think or feel. As already indicated, the thought of what others will think when the child is absent from them, is the basis of what is called conscience. This moral basis of conscience may now be supplemented by and united with the religious basis.

Rarely does a child in the next period show so much interest in fundamental questions of religion and philosophy as in this period. Having formed some idea of the general scheme of things he is more interested in special problems, until later when his whole outlook on the world may be changed during the adolescent period.

The period from three to six is the period for forming the intellect, as the preceding was for the moulding of the emotional life of the child. General ideas formed during this period are almost as persistent as the emotional attitudes produced by the experiences of the preceding period. It is not necessary or even desirable that the child's general ideas shall be definite and accurate at this time, but that they shall be started in the right direction. They can then develop in definiteness and accuracy without having to be radically changed. The general type of the mind as perceptive or reflective, concentrated and analytic, or diffuse and variable is pretty well determined during this period. Other minds modify and mould the developing mind, but their influence during this period is probably not as great as are native tendencies and emotional experiences.

One of the most important concepts formed during this period is that of number. Usually at first the words one, two, three, etc., are used without any meaning, or the child may take them for names to be given to certain fingers, the fore finger perhaps being called "one" even when the counting begins at the other side of the hand. Later the names are applied somewhat indifferently to several objects, e. g., "One, five, three," or the series in order, but not matching the objects to which they are supposed to be applied. At the same time

"hundred," or "thousand" may be used as an adjective of emphasis. The next stage is to match the number series up to ten or more, to the objects as they are touched. The child then realizes that ten is more than six, and twenty more than ten, and soon begins to learn simple combinations, often without much grouping of objects. This ability is usually gained between four and six, and sometimes the child can do a good deal of arithmetical reasoning.

Illustrations of Questions, Concepts and Reasoning. Boy of three years. After he had asked a great many questions, his mother said, "Now be still a little while and let us have peace." "What's peace?" "It's when little boys don't talk all the time." After a minute's silence, "Have we got a peace now, mamma?"

At thirty-seven months, talked a good deal about heaven of which he had heard from a servant, saying, "Angels come down and take us in when we die, then we can live again, wear a pretty dress and pretty things on our heads." When told that the only heaven we know very much about is inside of us, he pondered a good while, then said, "How can we go inside of us?"

Children often have the idea that when they grow large, adults become small. A boy of thirty-eight months said, "When I get big I will use chopper (axe) like you do now. Perhaps you will be little then, won't you?" Later he asserted positively that his father would be little when he got big.

His sister, when a year or two older, said, "When I get big I will pop corn like you do. Then you will be little like I am, won't you?" "No." "Yes you will."

A boy of forty months was hugging his mother and alternately saying that he did and that he did not love

her. She told him, "I do not believe you know what loving is." He replied, "Loving is hugging," then added, "Loving is not hugging, loving is being kind." He had received no *special* teaching of that kind.

When told that a basket ball was made of leather and wind, he said it would blow away if it was made of wind.

He questions a great deal about where articles of food, clothing and furniture come from, how they are made and the cost.

After being told that other people did things for him so he should do things for them, he reversed the application, saying to his father, "I wanted you to and you ought to do it, you ought." The explanation that children did not know as well as older people what was best, scarcely satisfied him.

At three and one-half, when being washed, he said, "It is a good thing my ears are there to catch the dust. They are two little waste baskets each side of my head."

He uses "hundred" to indicate magnitude and degree as well as number, e. g., "I love you a hundred," and even spoke of being "hungry like a hundred." Knows that a thousand is more, and a little later used "million" as his expressive word instead of hundred.

At three and one-half he was much interested in a pump and where the water came from.

When going for a walk when not quite four, he said, "Are we going over to the trees where the end of the blue sky is?" "No." "Is it far to those trees?" "No." "Then it is n't far to the end of the sky?"

Another day, upon seeing a picture of a volcanic eruption he asked, "What made those things *fall up?*"

"The days that have gone, will they come again? Will the days ever be gone, never come back again?" This question was asked in many forms, sometimes with "why" and once with a wish that they would all be gone.

Later, when learning the days of the week he said, "The days that have been, come again, don't they?"

Hearing the term step-mother he asked, "What does a step-mother step on?" He has often asked, "What makes the dark come?" and once, "What makes it come together?" Again, when a lamp was lighted he said, "Where does the dark go when light comes?"

"What is the earth made of? Where does the sun go at night? Where does the wind go?"

He often asks what giants can do; e. g., "Could a giant take a whole loaf of bread at one bite?"

"Can you reach the stars? Nobody can, can they? God can, can't he? How big are the stars? The sky moves as we move, don't it? It looks like it is moving, because we are moving?"

"Are you stronger than Mr. A —? How much can you lift? How high can you reach?" etc.

Between four and one-half and five and one-half the following questions and remarks were made. "If there was n't any day or night there would n't be anything, would there?" "When all the folks in the world are dead will the days keep going on?" "What makes sugar sweet?"

"Everything is made of little bits of pieces and those are made of still smaller pieces." He may have heard something said about atoms and molecules. He asked how rubbing the razor on the strap made it sharp, and when told that it rubbed off small pieces, he, after a

little thought, said, "When you use it small pieces come off the edge and then you have to sharpen it again. Is n't that the way?"

Asks many questions about numbers, such as, "How much are eight and nine hundred?" "Two hundred and a thousand?" and about how long it would take to go to various places that he hears of.

Asks if iron, glass, paper, etc., will burn or if they will melt and as to which is harder, etc.

"How many worlds are there? How did God make the world?"

"There are never any warm days up north, are there? Warm can melt cold things, can't it, ice and snow? Can ice burn?"

Early one morning he asked, "Is a wolf's foot just like a dog's foot?" When told to keep still, did so for half an hour, then repeated the question.

"What is glory? What is the author of liberty?"

Asks many questions about size, cost and how many; e. g., "How much would a cannon cost? How many could we get for a thousand dollars? What would the biggest cannon in the world cost?" Other common subjects are swords, guns, balloons, whaling ships and air ships. Some of the questions regarding air ships were, "How high will it go? Will it come so near the sky? (indicating with his hands.) How big is it? Where does the man stay that makes it go? What kind of an engine does it have? How big is it? Where does he get gasolene enough? Does he have a tank? How much gas does the air ship hold? What is it made of? When does he get his money? Would he give us some? Would he make a ship for us if we paid him? How much does he pay his man for making his air ship? How much

does it cost? How many can ride in it? Does one go up and stay and then another go up? Is it dark up there?"

Has himself said that the sky is just air, but can scarcely get away from the idea that it is something tangible, and hence that there is a landing place up there.

Gets excited when interested, and walks up and down as he asks one question after another. After asking about the digging of gold, he asked the value of a pailful, a room full, how long it would take to dig it, what could be done with it, etc. The questions being interspersed with remarks as to what he would do with gold; e. g., "make a little gold house."

"If we didn't have any mother we could go where we wanted to, couldn't we?" Some of the disadvantages were explained and he said, "God ought to make every one with mothers, had n't he?"

Had been troubled about something to do and one night prayed, "Dear Father, please help me to find enough to do all the time, until I am grown up, then I can find enough for myself without your helping."

When given the number of shells in a box as twenty-five, he gave the number in four boxes, then in eight boxes. This involved the knowledge of two times four, which he knew. He then asked, "What are two eights?" and when told said, "In sixteen boxes there would be four hundred."

"George ought to go with a big boy, 'cause he is a big boy. Babies ought to go with babies, had n't they? Mans like you ought to go with mans, had n't they? And little boys about four years old ought to go with boys four years old. Everybody ought to go with people

of the same age, had n't they? I wish I was bigger. How much more is ten (age of George) than four and one-half?"

After talking about having a pet mouse said, "Mouses will starve to death, won't they? Everything alive will starve to death if they don't eat, won't it? If a thing is too bitter I won't eat it. If a mouse had something he did n't like he would n't eat it, would he?"

Boy at five and one-third, when his father was talking about buying a house, asked the price of one that was mentioned. When told "Three thousand dollars," he asked how many years in three thousand days and then said, "If you paid a dollar a day for a little over eight years you would pay for it, would n't you?"

Definitions by Dr. Chamberlain's little girl, age forty-seven and forty-eight months.

Ankle — means to walk with.

Apple — It means to eat — just to eat.

Baby — It means babies that creep just like this.

Ball — It means balls for playing tennis or anything.

Book — O book you read. You 're reading a book.

Boy — O boys — they 're boys that walk of course. The boys go in the house and play and walk around.

Cat — A cat means just a cat. A cat eats salmon and meat and anything else that he likes. He runs around and walks around and kills snakes and mice and kills birds and rats.

Chair — Chair means to sit in.

Eyelid — For your eyes to live in.

Girl — Why, girl means to go to school.

Hat — To wear on your head.

Neck — Your neck that the head is on.

Papa — To take care of you.

River — Means where you get drinks out of, water, and catch fish and throw stones in.

School — To go in for anybody that wants to.

Sheep — It means a animal.

Sleep — It means when you are tired, why you go to sleep.

Story — Means to tell about.

Table — To put things on.

Town — It means to go in.

Blow — To blow bubbles. Wind blows curtains and blinds and everything.

Cry — When you hurt yourself, why, you cry. Your eyes are all squeezed up and tears rolling down.

Play — When you play house, tea-party, other games.

Speak — It means when you say "How do you do."

Red — It is a red ribbon. Geraniums.

EXERCISES

1. What changes in individuality have you observed between three and six years of age? Have you observed as great changes in any child between six and twelve?

2. Describe instances of contrariness you have observed in children at about four years and the circumstances that tended to increase or decrease the characteristic.

3. Discuss the relative possibility and desirability of having obedience bring pleasure or of having disobedience bring pain. Which most effectively develops habits and ideals of conformity to law?

4. Describe any instance you know of a child who had certain characteristics emphasized and more firmly established by others speaking and acting as if the child possessed them.

5. Describe instances from your experience or observation showing the formation and influence of ideals before six years of age.

6. Have you ever seen more than three or four children under six spontaneously play or work together as a group? Is there too much group work and play attempted in kindergartens?

7. Describe instances of assumed changes in personality and of imaginary companions.

8. Describe early instances of deception and of how a child has been taught to tell the truth.

9. Have you ever found lack of appreciation of fairy stories or of figures of speech in a child who engaged in dramatic plays a great deal? Have you in one who does not?

10. Describe instances of remarkable memory by children under six.

11. Describe instances of children being confused as to time and in regard to dreams.

12. Illustrate the need of standard images in order that a child may appreciate stories.

13. Collect samples of children's own stories and study their characteristics as a means of judging what interests them and the degree of their knowledge and mental grasp.

14. Give and analyze a number of instances of children's reasoning to determine how they reached their conclusions.

15. Give instances of theological or philosophical interest in children under six.

CHAPTER VII

PERIOD OF COMPETITIVE SOCIALIZATION AND REGULATION

Characteristics and Changes. The period from six to twelve is not a time of marked internal changes in any way, but one in which the external, social and regulative influences are very prominent and the individuality of the child is to a greater or less extent brought into harmony with other individualities and with social customs. The most prominent new tendency that appears during this period is the tendency to compete with others in all lines. Individuality is now so far developed that the child imitates less and competes more, especially with those of his own age, and thus strengthens still further his individuality. It is a period during which the sharp corners of individuality are to a considerable extent rubbed off or suppressed and the individual is made to conform to the rules of social life, without marked change in the essential nature of his personality. Association with others of his own age is absolutely necessary to normal development during this period, because only through companionship with those like himself can the child learn the natural laws of sympathy, ridicule, rivalry, etc., that always come into play whenever human beings are associated with each other.

During this period the physiological changes are comparatively slight. The child's growth is slower than formerly and is nearly the same each year throughout the

period. The most marked variation is at about nine years of age, when the rate of growth is slowest and there may be other physical and mental changes. No new organs begin to function during this period, but all gradually increase in size in more nearly the same proportion than at any other period. The infinite number of sensory motor activities already being carried on are developed and better coördinated. The change in motor control is well shown in the throwing of a ball by a ten or twelve-year-old as compared with a six-year-old.

The plays of the child undergo considerable modification. Free play gives place to a greater or less extent to the partially directed activity of games and sports and the child's activities have much more of the characteristic of work, in that they are directed toward definite ends, instead of being carried on for the mere pleasure of the activity itself. In general there is an increasing tendency to differentiate work from play and it is well at this time to encourage this growing tendency without trying to hasten it too much. The child should learn to work when he works and play when he plays. Following the rules of games is a help in this direction.

During this period the child is usually brought under the influence of a constantly widening environment. In the preceding periods the chief social influences have been those of adult personalities, who to a greater or less extent are imitated and obeyed. In this fourth period of development the child is usually much more in contact with other children of his own age in school and on the street. He imitates them to a greater or less degree, but his personality is in continual competition with those who are at approximately the same stage of

development. By contact with companions he not only has his characteristics as an individual developed, but he learns the characteristics of other personalities and becomes a conscious member of a group who compete and coöperate in all sorts of ways. He thus develops a social consciousness of a more advanced type than the common consciousness of an earlier stage. He finds his place in social activities, learning how his activities affect others and theirs affect him. He thus learns the laws of social conduct by experience in a way similar to that in which he earlier learned the physical laws governing the movement of things. Even the quarreling and fighting of children are sometimes half playful contests and rarely involve prolonged ill-feeling.

In the first part of this period of development the child feels chiefly the influence of individuals, but in the latter part of the period the public sentiment of the group to which he belongs becomes an important influence directing his conduct. Single individuals no longer influence him to such an extent *as individuals*, but as they are conceived to represent the larger sentiment of the *group* to which they belong. Even the commendation or reproof of the teacher is not now effective simply in a personal way, but chiefly because of the light in which it places him before his fellows.

In this latter stage the child learns to coöperate to some extent in his games and in reaching desired ends. The coöperation that appears at this time is not, however, very successful unless directed by an older person who can usually best develop it through group competition. Rivalry is no less strong than before, but in contests of one group with another, the individual begins to realize that he often can best distinguish

himself by acting so as to secure the success of the group.

Social Direction and Regulation. In all civilized countries the period from six to twelve is recognized as the special period for formal education. Before this the child has been profoundly influenced unintentionally and to some extent intentionally by adults, but there has been little effort made to definitely direct his learning and his intellectual development. He has also been allowed a great deal of freedom, but now he has more definite tasks to perform at a certain time and in a specific way. Because of these things and because of the fact that he is also being introduced to the broader environment of the world represented in books, it would seem that the development during this period must be largely in accordance with the conscious purpose of his educators. The time is peculiarly favorable for such control of the child's development. During no period before this are there so few changes in the instinctive tendencies of the child, hence the tendencies already present may be directed in any line desired and to almost any extent.

It is peculiarly a time for forming habits and acquiring knowledge, and these conditions foster the sometimes illusory idea that during this period the development of the child depends entirely upon his educators. It frequently happens, either that his development does not proceed as his educator expects or that characteristics which seem to be firmly established during this period are entirely changed during the next period of development. The reason for the varied outcome from the same treatment is that children are very distinctly different at the beginning of this period

and hence exactly the same training and instruction do not produce the same results. In cases where the desired results seem to have been reached but are largely changed in the next period, it must be supposed that the acquired characteristics are not completely incorporated with the natural and that the new instincts which come into play at the beginning of the next period cause the acquired characteristics to be thrown off and the conscious life wholly reorganized.

The effects of different modes of treatment are well illustrated by comparing Japanese children with Anglo-Saxons, in accordance with the observations of Prof. P. A. Smith upon the Japanese (Ped. Sem. vol. 16, pp. 256–267). In general children of the West are subjected to authoritative control with greater or less success. They are required to conform to rules of conduct similar to those governing adults, whether they wish it or not. In Japan, on the contrary, the child is allowed to do as he pleases without any attempt to *force* him to do as the parents desire. He is treated with the greatest politeness and kindness, even though he is impudent and selfish. The virtues of politeness and regard for parents are, however, very much emphasized in the teaching that he receives. The result is that through such example and teaching the child after a few years becomes very polite and very thoughtful for the welfare of his parents, and these characteristics are confirmed during the next stage of development.

The Western child, on the other hand, is more or less successfully *made* to behave himself by means which, if imitated, would result in anything but kindness and politeness. If the authority is vigorous and he is not a strong or rebellious personality the habits

of politeness and deference to adults are apparently well developed. In the next period, however, these seemingly established but really unassimilated characteristics are frequently thrown off and after a period of assertion of independence and of lawless activity, the habits and the mental life are reorganized.

Such facts as these make it exceedingly difficult to determine the final value of any system of training and education carried on during this period. A plan that is a complete success with one child may be an entire failure with another. A plan which seemed to be an entire success may later prove to be a complete failure, while a plan that seems for a long time to show few or no results, may later result most satisfactorily.

There is still much chance for difference of opinion as to the kind and amount of direction that should be given the child during this period. Good results have been obtained where the surroundings were favorable, with little or no authoritative direction, and also where there has been very rigid and extensive direction. Authoritative direction is better suited to producing a specific result, while freedom and other forms of influence are most favorable to bringing out the individuality of the child. There is no time when authoritative direction is less dangerous, but it should never, if individuality is prized at all, be exercised all the time and control every form of the child's activity.

There is also serious danger to normal individual development in making too abrupt the transition from the comparatively free life of the home to the continuously directed activity of the school.

The Chief Social Influences. The influence of home

life continues during this period with little change except that the child usually spends much less time in the home and more with companions on the street and in the school. He is thus brought in contact with a variety of personalities. The school life often soon takes a leading part in the child's development, with the teacher as the dominating personality. After a few years, however, the real development of the child is frequently directed largely by association with other children outside of the regular school exercises and also to a considerable extent by their activity and sentiments in school. During all this time the child is being introduced to the wider world environment through the medium of books and papers which suggest regulation of conduct. Societies of all kinds exert an increasing influence over children as they reach the close of this period and enter upon the next.

With some children, the home influence, which at the beginning of the period is most potent, continues to remain dominant. With others, competitive plays and games and experiences of chumming, leadership, and group activity are dominant influences. In a few cases, distinctly school interests take the lead, while in others, the events pictured in books most occupy the mind and direct the formation of ideals and corresponding regulation of conduct. Various studies have shown that children during the first half of this period get their ideals of what they wish to be from their immediate surroundings, while in the latter half of the period they are derived more from history and literature.

The most common defect in social regulation during this period, is a lack of correlation in these various influences. Not infrequently there is little resemblance

between the child in the home, on the playground, in the class-room and in his reading activities. Parents and teachers are consciously directing their best efforts to develop the child in accordance with their ideals of what he should be, but not infrequently their influence is less than that of his companions or his books.

It is fortunate that the child is subjected to other influences than those directed by parents and teachers, for he thus has a chance for a freer, broader development of his own individuality. The unfortunate thing is that these various influences are frequently not brought into any close relation with each other. Librarians are now doing much to correlate reading with school work, while playgrounds, school gardens and industrial training as well as the use of schools as social centers are proving of great aid in correlating various influences, but much still remains to be done in correlating the school life with life outside.

The influence of the school, powerful as it is, is much less than it might be if the subjects dealt with were more directly related to the child's individual interests and activities outside of school, and if the school life as a whole were more closely related to the life of the community. It is difficult to bring this about because a considerable portion of the time at first is spent in acquiring a new language and learning other symbols and processes not directly connected with ends the child is seeking, and because much of what is taught in school is so far removed from every-day activity that both teacher and pupils regard the lessons as a thing apart from life. For a long period also, after the child has acquired an elementary knowledge of visual language so that he can get thought from reading and express thought in writ-

ing, his mental processes work much less freely and accurately when directed by visual symbols than when he uses the more familiar oral symbols. For these reasons many of the ideas gained in school, though expressed clearly in familiar words, are connected with his own experiences either not at all or to only a very slight extent. His school learning may in the course of years be very fully developed, but it may not be organized so as to have any effective connection with the ideas directing his activities outside of school. It is very desirable, therefore, that the information acquired in the schoolroom should be more fully based upon experiences the child has already had and that what he learns in school should be found by him to be directly useful in advancing ends that he now desires, instead of merely being acquired for use in some remote future, for ends which now have little real significance to him.

The following are the conclusions of Prof. J. R. Street ("A Study in Moral Education," Ped. Sem. vol. v, pp. 5–40) as to the kind of influence exerted by teachers, parents and companions. He says: "The *teacher* seems to stimulate the accessories of character, such as manners, sense of social and civil relationship, tastes, etc. The *parent* develops the fundamentals, such as sympathy, reverence, love, sense of truth, justice, mercy, kindness, meekness, patience, etc. *Companions* develop the social qualities and afford practical applications of the teachings of the home and school and prepare the boy or girl for the further duties of citizenship by cultivating the sense of independence, individuality, altruism, etc. Other adults advise, and they and books often supply ideals while all sorts of societies develop the larger social self."

Competition. Competition becomes the dominant element in the child's play and in all his activities. The delight which he formerly experienced in manipulating objects and exercising his powers upon them is now felt in contests with his mates. He may be either a leader or a follower, but he is even then always to a greater or less extent a competitor with other leaders and followers. The primitive activities of chasing and struggling with companions are now usually carried on in a more regulated manner in connection with games of chase and in various feats of strength and skill.

Competition early in this period is often for social ends, each child trying to secure notice and favors from parents, teachers and playmates. Any favor granted to one child is desired by every other, regardless of its value to him. The competition of this period does not necessarily involve enmity, but merely a strong tendency to engage in contests. Even quarreling and fighting may be half playful. Imitation and rivalry are what make plays, games and work interesting and in fact increase every instinctive tendency to such an extent that where children are in groups, any type of activity that is started is likely to arouse the impulse to imitate and compete to such an extent that individual interests, unless those of the leader, have little influence in determining what shall be done. A child's own interests may be shown in the collections that he makes, but often he has little real interest in the objects that he collects and merely wishes to do as others are doing and to surpass as many of them as he can in the doing.

The child, although in the individualistic period in which the prominent tendency is to act for one's self, may, toward the close of the period, feel the power of the

group to be greater than that of the individual and strive to share in and promote the success of his group against any other group. He himself is exalted by the success of the group with which he to some extent feels himself identified. This feeling is fostered whenever the child plays with a number of children and in cases where he has a definite part to perform. If he has duties and responsibilities in the home, it is also fostered through the family feeling. In school the teaching often emphasizes individual activities, but whenever classes or schools compete with other classes or schools, the social self is emphasized and developed. The appreciation thus developed of the importance of the social relations is the basis of most of the subsequent moral development.

The most powerful stimulus to activity in both work and play is the presence and activity of other persons. That which arouses no interest whatever where the child is alone, may be of most exciting interest when others are interested in the object or activity. Very few plays after the beginning of this period can be enjoyed alone, and almost any task may be delightful if others are joining eagerly in it. So fundamental is this instinctive response to others that a horse or a man may do the best he can in running a given distance alone, yet when he has a rival to run against he will make very much better time. This is so fully recognized that records of paced and unpaced races are kept separately. Whenever children do things in the presence of other children, rivalry in some form plays a part whether the teacher desires it to do so or not, especially during this period. A child working alone lacks one strong stimulus to effort that can only partially be supplied by ideas of what others have done. This gives class teach-

ing an advantage that can only be matched by skilled individual teaching and by arousing interest in other ways than by competition.

Chumming and Leadership. The real development of individual character is now more profoundly influenced by association with chums and groups of children than in any other way. The child could get along without human influence during the first period and without companions in the second; he needs both parents and companions during the third, but can live much of his life independently; while in this fourth period companions are a necessity and other social influences are incidentally valuable. None but companions can make the potential value of former experience and training of actual value. The child must measure himself against other children and thus develop his powers, learn his own strength and weakness, and how to act socially. He should during this period be alternately an imitator and follower of those older, a leader who imposes his own wishes and modes of action upon younger or weaker persons and one who gives and takes from chums and rivals.

These activities are favored by association in the home and elsewhere with children a little older and a little younger than himself, as well as with those of his own age and ability. He needs individual chums, and he needs to be a member of little groups or societies, that he may learn to adjust his personality to other personalities singly and in groups in such a way as to avoid pain and failure and secure success and pleasure.

In this and the following period, chumming as well as group activity plays a large part in the social development of most persons. Chums stimulate one another in

special ways and bring out special phases of each other's nature. They imitate each other a good deal, but they also often develop contrasting characteristics, through one taking the lead in one line and the other in another. Prolonged and exclusive chumming with one person is narrowing. To develop various phases of his nature a child needs to be brought into close relation with many personalities, either singly or in groups.

Chums are usually of nearly the same age and they generally have some common interests although they not infrequently possess contrasting characteristics.

The qualities that make a leader among children, as well as among men, are various. There must be some common bond of sympathy, purpose or interest between the leader and his followers; then he must have some quality or qualities either motor, mental or moral that mark him as superior to the others. Originality, self-confidence and firmness are favorable to leadership as is also the not easily defined power of attracting and impressing others. This latter power is possessed by all so-called "born leaders" while other characteristics may make one a leader under special circumstances or of special groups over which he possesses some advantage in the way of knowledge, power or position. The best teachers are leaders rather than governors and they learn also to utilize the power of leadership possessed by their pupils.

The following examples from Terman's study of leadership (Ped. Sem. vol. xi, pp. 413–451) illustrate the power that child leaders may exert and some of their characteristics.

Girl of eleven. Ruled the boys and girls alike. "One of the wealthiest girls in the village was her slave. She

could make us do as she wished before we knew what was up. She was good-looking, daring, skillful in holding her own, and older than the rest."

Girl of ten. "Leader of boys and girls. Never alone but always a horde following; jolly, off-handed, extremely resourceful, aristocratic looking. In our dramatic plays was always composer and leading lady."

Boy of fourteen in country school. "Was small but ruled those larger, older and stronger. High ideals, scorned a coward, protected the smaller boys, naturally a gentleman. Could see both sides and judge quickly and justly."

Boy of twelve. "Not attractive but rules his schoolmates absolutely. He is selfish, rude, cruel, and inspires fear. He is inventive and clever."

Boy of fifteen. "Big and well formed, could run, jump, spin a top better than anybody else. We thought there was nothing impossible for him to do."

Girl of twelve. "Had a great influence over her schoolmates. At one time she became angry at one of her mates and persuaded all her mates to be 'mad' at her also. For several weeks no one spoke to that girl. Due to social standing, smart manners and skill in games."

Boy of ten. "Leader of a large group. Once persuaded all the boys to stay away from school an entire day. Later he begged the teacher's pardon and made the others do so. He was above the average in size and physical strength. Was homely, pug-nosed and freckled."

Boy of nine. "Domineers excessively over his companions in a pleasant way. They do as he does. He has only to begin a game to have them follow. If they are playing and he quits, the game soon breaks up."

Girl of nine. "We would play no game until she had consented. When her regular seatmate was absent we all wanted to sit with her. We took care not to wear clothes that she did not like. Due to good looks, manners, social station and clothes."

Boy of fourteen. "A kind of lawless fellow. Leads a gang of his friends whom he has caused to begin stealing. They do as he says because they dread his ridicule. Is daring and skillful at feats."

Girl of ten. "Her leadership depends entirely on the prominence of her parents and on her beautiful clothes. She is selfish, not good-looking and not at all bright in her studies, yet she has the other girls completely under her control. Whatever she does, they follow suit."

Boy of nine. "An only child and used to having things his own way at home. At school is domineering. When he can't get the boys of his own age to obey him he joins a group of smaller boys whom he can boss."

The following descriptions of outcasts illustrate the opposite of leadership.

Boy of twelve. "Most unpopular I ever knew. Untidy, ill-mannered, rude, selfish, spoiled, sneaking. A cry baby."

Boy of ten. "When he came near the others always stopped their game to keep him from joining. Conceited and cowardly."

Girl of ten. "A tell-tale. We called her C. T., which meant Cranky Tattler."

Teasing and Humor. At this time the social instincts have so developed that there is great sensitiveness to what others think as well as do, and to what they say. There is also a strong tendency to try to in-

fluence others and make them perform. The child therefore develops great sensitiveness to being teased and a strong tendency to tease others. This tendency sometimes makes children seemingly unsympathetic and almost brutal and cruel in their treatment of each other. They seem to do everything they can to make the unfortunate victim ashamed, angry or fearful, and to prolong the process as long as they can get any response from him without serious injury to themselves. The stimulus to teasing is not, however, the desire to inflict actual pain, but the more or less playful impulse to make some one perform by getting him to respond in some way.

The possession of any peculiarity of body, mind, temper, clothes or family relationship is almost sure to attract the attention of companions and result sooner or later in receiving some sort of special notice and treatment. This is especially true of boys among whom, as a rule, every one has some nickname, "Fatty," "Slim," "Shorty," "Pouts," Reddy," "Bossy," that is suggested by some corresponding or contrasting peculiarity, physical or mental. Sometimes the peculiarity is a matter of pride, while more frequently it is at first a source of mortification and anger, but usually the boy adjusts himself to it more or less completely and good-naturedly. Very frequently a boy or girl conceals peculiarities that he or she knows will be noticed and commented upon and often suffers untold agonies when compelled to do or wear something that is not customary among mates. What to parents seems only a foolish notion or pure contrariness, may be to the boy or girl a matter of vital moment in which honor among companions is at stake.

Fear of being teased becomes one of the strongest regulating influences in the life of the child, and is only slightly less in adult life. Ridicule often wins where threats and even severe punishments fail. To a very sensitive child, teasing is a great source of misery, yet it has its value in leading him to suppress phases of personality that would otherwise become too prominent, and in giving him practice in depending upon himself and maintaining his peace of mind in spite of what others may do or say. Probably there have been few strong and effective personalities who have not found, when children, how to meet teasing. The teasing should come, however, from equals rather than from adults.

The sense of humor is very closely related to the teasing instinct. It may be regarded as a milder and more intellectual form of the tendency to enjoy seeing another do useless or unusual things in response to what some one else does or says.

The sense of humor is a product of the play impulse, as are also the fine arts. Nothing more quickly brings people upon a common ground than to share in carrying out some fundamental impulse, such as playing together. To enjoy a humorous situation with others is like playing with them. A well-developed sense of humor is one of the most important characteristics of a teacher who is to get into sympathetic touch with her pupils. The place of humor as an educational means and end has been sadly neglected. Many a disturbing situation may be quickly changed into a pleasant incident, and at the same time undesirable tendencies checked, by a good-natured remark showing the absurdity of what a pupil has done or is intending to do. Humor instead of being

suppressed in the schoolroom should be cultivated. Humorous stories and witty selections should be given a place in reading lessons and children should be taught in such a way that they will appreciate the more refined forms of humor and wit.

When, however, humor takes the form of sarcasm it becomes a weapon instead of an educational instrument. Equals may use it in an intellectual combat, but a teacher, never with good results. Immediate results of a certain kind may be secured by it, but at the same time it wounds in a way that can only be classed as cowardly and cruel — sometimes more cruel than actual slashing with a knife.

Perception. During this period the child's power of perception is further refined and developed by repeated observation in the case of familiar objects and by experience with new objects. In the case of new objects the child usually notices the object as a whole or some striking characteristic of it. Only gradually does he learn to analyze and perceive essential characteristics. After an object has been analyzed and parts or characteristics named the child can no longer perceive it as a whole; e. g., after analyzing flowers a good deal one cannot avoid seeing stamens, pistils and petals. The child soon forms standard ideas of the true appearance of objects and learns to know what sensations most surely mean the presence of such objects. Further experience in perceiving those which are familiar, results simply in more accurate discrimination and quicker perception of the meaning of sensations, with more of a tendency to ignore all sensations that an object gives, except those that imply the standard appearance. There is thus a double process going on all the time, leading

on the one hand to the noting of certain elements of the whole, and on the other, to ignoring those that are not significant to the individual. This is well illustrated by the contrast between the perceptual habits of a rapid reader who continually notices the form of words less and less, and the printer or proof-reader who perceives more and more clearly the size, shape and relations of letters.

A child's perception of objects may be either more or less accurate than those of an adult. In lifting weights, for example, the adult is more subject to illusions caused by difference in size when there is no difference in the weight of objects that appear to be of the same material, than are children. The child has not, as yet, so fully acquired the habit of putting forth just the amount of effort suggested as necessary by the visual appearances of objects, hence he is less subject to illusions in lifting such weights than are adults. In the case of the sound of words the conditions are similar. The adult's perceptions of vocal sounds have been standardized to such an extent that the real sound uttered is not heard, but instead some word that it resembles and suggests. For example, the nonsense syllable, "nog," may be heard correctly by children while adults will hear it variously as "log," "now," "gnaw," etc.

The child has had less experience than adults in perceiving objects at various distances and hence is unable to judge of the size or real character of objects seen at a great distance. Horses at a distance, for instance, may be thought to be as small as dogs. On the other hand, where the apparent size of an object is dependent on the arrangement of lines in a picture, indicating perspective, the child's judgment of the comparative length of lines and size of the figures in the foreground and

background may be better than the adult's, because the adult judges more by the comparative size of the objects suggested than by the lines on the paper.

In the perception of words and letters, the child at first perceives them as wholes or notes some one striking characteristic. This is shown by the fact that children readily note the similarity between print and script and easily change from reading one to the other. The first effort is usually to identify by means of similarities and then later to discriminate differences. The latter process is usually emphasized when the child begins to spell and write words. He may, at a certain stage of learning to read and write, perceive more accurately than adults. An adult, in reading, looks at words, not to see just how they are formed, but to get the meaning they suggest and when enough of the form is perceived to suggest the meaning, further perception is unnecessary. He, therefore, often overlooks misspellings which a child may notice. The small extent to which one observes the details of the forms of words is indicated by the fact that one can read nearly as well when the lower half of the line of print is covered.

Again the child often notices similarities unnoticed by adults and this is due to the same cause that makes it possible to see resemblances in members of the same family, which close friends do not notice.

In general throughout this whole period, the child is establishing more firmly perceptual habits in connection with familiar objects and experiences and is acquiring new perceptions in the lines of the hitherto unfamiliar, and hence he becomes more subject to illusions in some respects and more discriminating and accurate in others. In some cases illusions are reversed; for example, a

child when first riding in a carriage, boat or car, sees objects as moving when it is his own position that is changing, while in the familiar train illusion an adult when looking at a passing train seems to perceive his own train as moving in an opposite direction.

Tests with ink blots show that children in the lower grades perceive them as pictures of objects more readily than adults. In the higher grades there is a critical stage in which the child does not see the blots as pictures but as mere blots. Older children and adults perceive them as blots but at the same time they can imagine something that they represent.

Probably one of the most important developments in perception during this period is in the unification of space perception. The child has previously acquired a standard of real form suggested by the various appearances of objects, but he does not as yet perceive clearly the relation of parts to each other and of these objects to others that he cannot see. He has to learn the relation of angles and of length of lines to the shape of figures as wholes. He also probably has a very indefinite idea of the relation of the rooms in a building to each other, although he has frequently been in all of them. He may readily find his way to places by the routes that he has previously taken, yet know nothing of the real space relation of the two points connected by the route.

At the beginning of this period he may know the significance of up and down, front and back and perhaps right and left, but may have little idea of space relations not directly concerned with himself and his own movements. It is for this reason that much attention needs to be given to having the child form a good per-

ceptual basis of space relations in order that he may form correct ideas of space relations when he studies geography. He needs to get used to certain standards of reference, such as right and left, north and south, and to learn to appreciate representations of such relations. He needs also a good deal of experience with standard units of measure, such as foot, mile, etc., so that he will know what they mean in terms of visual sensation and of muscular movement.

The following quotation from Triplett (Amer. Jour. Psy. vol. xiii) illustrates how difficult it is for some children to form ideas of space relations and the way of indicating them in geography. "I used to think that rivers never could flow north because that would be flowing up hill, as north was always up on the map." "For years I had to imagine myself whittling to determine which was the right and left hand." "By thinking of the hand which used to have so many warts on it as the right." "Am equally right and left handed and have to place myself in the position in which I learned the difference between them." "I know my right hand by thinking on which side I used to have a pocket in my dress."

In the child's perceptive development, purpose plays an important rôle. Only the striking characteristics attract the attention, unless a more careful observation of the object is a means to some desired end. In the old type of object lesson in which the various characteristics of objects are noted, the child has nothing but an artificial interest. If weight, color, or hardness or any other quality needs to be observed in any object in order to make it serve some purpose of the child, he will quickly learn to discriminate that characteristic.

Action and use, what the thing can do or what can be done with it, are to him the important things and, aside from the unusual and the striking, are what direct his perceptual development. Æsthetic pleasure and curiosity lead to some observations other than those of use, but there is, during this stage, little interest in the mere physical qualities of objects unrelated to anything else. It is a mistaken waste of time, therefore, to attempt to develop perceptive power by having children observe in a formal way and without any purpose to be accomplished, all the qualities of objects. Instead, the children should have some end to be achieved in dealing with objects and should observe their characteristics in order to attain that end. In the lower grades the ends should more frequently be practical, while in the higher they may be more theoretical, in the sense that general truths or their applications are being sought. Manual activities give opportunity for both. The general principles involved may be made more prominent in the higher grades.

In promoting perceptual development it is important that the child should have plenty of opportunity to observe the use of standard units of measure, such as pound, quart and inch, and to tell the value of them in gaining his own ends. Standard images and concepts he is to use later are thus given a sensory basis and a personal significance such as cannot be obtained by any amount of study and work with tables of weights and measures, or by formal demonstrations of the relation of one unit to another. Standard geometrical forms should also be made practically familiar through their use in playful and constructive activity. Standard units for measuring time should also be brought to the child's

attention in connection with things that he is doing. His attention may also profitably be called to common rates of movement that may serve as standards of comparison in understanding descriptions, e. g., how long it takes to walk a mile.

Imagination. In the previous period the child has developed a great number of free images and has amused himself by all sorts of playful fancies. At the beginning of this period his imagination is vivid but not accurate. Mental images may be shifted and recombined, in some respects more readily than in the case of adults who have become so habituated to certain common arrangements of imagery that they cannot readily change them. Few adults, for example, can make such absurd combinations as did the author of "Alice in Wonderland," while to children they are not at all difficult. As the previous period was marked especially by the development of freedom of imagery, this period needs to be marked by the development of regulated and accurate imagery. In order that the child may become acquainted with the world beyond the immediate surroundings, he must no longer arrange simply according to his fancy, but must learn to represent accurately according to description.

A large part of the child's learning, especially in school, during this period is mediated learning. Through the medium of words, pictures, maps, etc., he is being made acquainted with an environment not actually present to sense perception. It is necessary, therefore, if he is to know this environment, that he shall form accurate images and that he shall arrange these images correctly. In doing this he needs to have well-established standards of form, size, etc., and he must be familiar with the

more conventional standard units of measure, so that he may represent things in their real appearance and relation.

Pictures are a great help in getting ideas of simple objects different from those that he has seen, but not in getting ideas of size and relations. These can only be obtained by acts of constructive imagination. The child must take his experience of hills, brooks and villages and, with the aid of pictures and descriptions, enlarge and modify them into mountains, rivers and cities. The child is being prepared for the exercise of constructive imagination needed in studying history and geography when he is listening to descriptions of objects, persons and events familiar to him, or still better, when he is relating experiences that he has had, with definite specifications as to places, characteristics and relations of persons and objects.

At first, in order that he may follow accurately any description, it is necessary that much of what is named shall already be familiar. The experiences of persons that he knows, or of other persons in places that are already familiar, are more interesting and better followed, than when both are new. During this period, however, he develops the power to picture scenes no part of which is familiar, but the terms must have definite meaning to him. In describing strange scenes familiar standards must be used. Even adults find it difficult to follow a description in which there are several unfamiliar objects named and unusual terms used, such as metres instead of yards. It is a period, therefore, in which standard units of measure should come to be known, not only in the form of tables, but in their application to objects and descriptions. This is absolutely necessary if figures used

in descriptions are to lead to the construction of correct pictures. Geography and history mean little or nothing without effective activity of the constructive imagination. The child's imagination must be directed by some knowledge of real size and relation, or history and geography are not distinguished from fairy tales. In the latter, free play of fancy and æsthetic pleasure dominate, while in the former the real character of things and the laws governing their relations are to be realized by means of the imagination, which relates and combines standard images according to the descriptions. Facts of geography and history may, however, be presented in such a way as to give almost the same pleasure as Gulliver's tales, with the additional feeling that realities are being described.

In geography, the map with its conventional symbols of mountains, rivers, etc., is really to a considerable extent a language, whose symbols must be learned and their meaning understood by means of the constructive imagination. If this language is thoroughly learned, the child, when he looks at the map, will see rivers and cities instead of mere crooked lines and dots as is so often the case.

The need of better training in constructive imagination is indicated by such facts as the following. A young lady, in answering a question about the Himalaya mountains, said, "They are the highest mountains in the world and so are sometimes called the backbone of the world. Some of them are as much as five hundred feet high." A class of normal students, questioned as to the size of a gallon measure, gave height and diameter ranging from four by six inches to twenty by thirty inches, and when asked how long it would take to walk across the bridge over the

Mississippi River at St. Louis, gave times ranging from five minutes to three days. One thought the river too wide to have a bridge across it, although she must have known that trains cross the river. All children, even those who have had a great deal of experience in the lower grades, in using units of measure and standards of form and quantity, need practice in imaging them and in combining and relating them to each other according to descriptions.

Often a child needs something more than words to stimulate his imagination. Diagrams, pictures, models or sample objects often serve as effective stimuli. Care should be taken, however, that they are used as stimuli to the imagination instead of as models to be reproduced. A rough diagram with some description is therefore often better than good pictures only. In a large proportion of cases students memorize pictures and maps instead of constructing what they represent. It is not desirable, however, in drawing and other subjects to require objects to be looked at again and again after the child is able to image all that it is necessary that he shall image in order to state or represent what is desired. His power to use images is improved by using them, more than by depending upon repeated perceptions.

Memory. This period is generally supposed to be in a special sense a period of ready memory. In many lines children can learn as easily or even more easily than adults and what they learn is also well retained. Memory tests show a gradual increase in memory for words from the beginning to the end of this period. The increase may, however, be largely accounted for by greater familiarity with the memory material and greater facility in reproducing what has been learned.

It is probable that there is no real change in the capacity to receive and reproduce new impressions but only in the ability to group and recall them and to assist memory by knowledge. Recent studies by Guillet have shown that a child of two years learned the names of birds, animals and other things about half as rapidly and retained them as well as his father did the corresponding Japanese names. It is almost impossible to find memory material for tests, that will be equally new to all persons. Even Guillet's two-year-old child learned English names of animals more readily than he did German names and still more readily than the unfamiliar French names. Experiments show that children of six years of age learn Greek letters just about as quickly as adults who are unfamiliar with Greek. It is probable that a child's memory for words reaches its climax before entering the teens. He also probably never has more capacity for remembering what he has himself observed or for remembering what he has vividly imagined.

When it comes to memory of abstract truths, however, the child's memory seems, to the teacher, strangely inefficient. The words expressing the general truth may sometimes be easily memorized and reproduced, but the truths themselves seem to have little place in the child's mental activity. Early in this period the child has become sufficiently familiar with language material to be able to remember words and their combinations in sentences with great facility. In many cases he finds that he can so much more easily memorize words than he can think clearly the concepts they stand for, or represent in imagination what they describe, that he learns words, instead of incorporating the ideas they stand for with ideas that are already familiar to him. Thus words,

instead of being a medium by means of which the wider world environment is brought to his mind and made a part of his mental experience, become a series of meaningless or slightly significant sounds and forms.

Only after some years' experience in reading and in trying to reproduce in other words what he has learned, can a child successfully do so. He cannot readily hold in mind the ideas corresponding to the words and find new words in which to express them. He can best do this if he is led to imagine vividly what is described. Few children are able even at the close of this period to gain abstract truths by means of words and then express those truths in other words.

The child's seemingly poor memory for abstract truths is, in part at least, merely a case of not being able to remember what has never been learned, since the words have conveyed to him no real meaning. If the thing to be remembered can be represented in some concrete form the child may attain great facility in remembering it, as is shown by the remarkable ability of many children to produce stories in their own words, although the same children are unable to recall a comparatively short arithmetical process or an abstract explanation of physical phenomena. As has previously been said, this period is one especially suited for introducing the child to a broader world environment, and to the experiences of people in other places and ages, and for acquiring the truths that man has discovered. It is especially unfortunate, therefore, that this rich environment which can be reached and made a part of the child's mental life only by imaginative and conceptual activities, should so often be brought to him only very imperfectly because all his energies are occupied with what, under the re-

quirements, is to the child an easier task, that of memorizing symbols.

So-called memory training, which is often wholly verbal, results in most cases in a weak foundation for all the child's subsequent knowledge. What is lacking during this period is not usually training in verbal memory, but training that leads to the forming of more accurate pictures and concepts in response to words, and to gaining power to recall at will what has been learned and in the right connection. The chief place for verbal memory is in memorizing literary selections in which the form is as important as the content. In nearly all other cases imaging and understanding rather than memorizing are of most importance. Nor should they be neglected when memorizing literally, for memory is greatly helped by knowledge.

Training is also needed in locating, especially in time, memory experiences, and in voluntary selection and recall of significant facts without giving all the unimportant facts associated with them. The aim should not be so much to deal with large masses of memory material as to select, learn and arrange what is important and to reproduce it at will.

Concepts and Thinking. During this period the growth of concepts is very similar to that of the preceding period, except as it is modified by the efforts of the teacher. The chief difference is, that in the third period, the growth of concepts was closely related to the perceptual activity of the child, while during the fourth it is dependent chiefly upon representative activity. Through the medium of language and pictures the child's experience is, in imagination, immensely extended and he becomes acquainted in a mediated way

with many new things, conditions, activities and personages. The child's conceptual activity is still, however, closely related to the concrete. Just as he has previously learned by perceptual activity some of the fundamental laws governing things and persons, so he now acquires similar general truths regarding the world that he knows only through the activity of his constructive imagination.

The following definitions of children in this stage show that abstract thinking has little place in their consciousness, especially during the first part.

Children of four or five, when asked what a chair or other object is, are likely to repeat the word or point to the object or tell something about a particular one; e. g., "It is a chair," or, "That is a chair," or, "I have a rocking chair." Early in the fourth period they are likely to state the use of the thing, what it does or what can be done to it. "A knife is to cut with." "A school is to learn things in." "A bee flies." "A bee makes honey." Or in some cases they use a more general term such as, "A horse is an animal." "A bee is a bug."

At about the close of the first half of the period they more often use larger terms, state definite use and may give some description. "A chair is a seat." "A chair is to sit on." "A chair is made of wood and has four legs." "A bee is an insect." "A school is a place where you go to learn." "A bee is an animal that makes honey."

Near the close of this period more general terms are used and with greater accuracy, and the descriptions are more varied, detailed and abstract. "A bee is a flying insect." "A chair is a stool having four legs used to sit on." "A chair is a seat with a support at

the back." "A school is a building in which knowledge is taught." "A bee is a small insect that flies and makes honey." Abstract words may still, however, have concrete definitions in the form of examples; e. g., "Trouble means when you tease anybody." "When you do something wrong you get into trouble." "Politeness is to tip your hat at others you know."

The child acquires a great number of general truths regarding the world outside of his immediate environment, and regarding the necessary means or rules to be followed in his constructive activities and in all dealing with persons and things. He thus gains many of the facts and principles involved in the various industries and classified in the sciences, and at a later period he may form accurate abstract ideas. He does not, however, during this period, think these truths in a completely generalized and abstract way. Either with or without concrete experience, he may be led to acquire some of the language of science and to present the appearance of possessing scientific knowledge, but in most cases he is almost wholly incapable of genuine abstract thought. It is a period well suited to language study, nature study and constructive manual activity, as well as for learning of people and things in other lands and other ages, but it is most emphatically not a time for studying language *as a science* or even for the scientific study of mathematics and of nature. The study of grammar, arithmetic and physics *as sciences* during this period is likely to injure the child's mind much more than it develops it. The child may learn the fundamental processes of arithmetic very successfully, but he is totally unable to appreciate the scientific principles involved. He may learn to use such

terms as dividend, divisor and quotient and how to find one when the others are given, but he is not likely to appreciate the general principles involved until near the next period. Division is to him simply a mode of dealing with problems in which the process may be reversed in order to get the term asked for. The child may readily appreciate that if ten bushels of corn cost $7.50, he may find the cost of one bushel by dividing by ten and he may similarly solve other concrete problems. But until near the close of this period it is likely to be very difficult for him to appreciate a general statement, such as, "If the cost of many things is given, the cost of one thing may be found by dividing the cost of many by the number of things." When he has reached the stage when he can readily appreciate such general statements, he is ready to begin to study mathematics as a science and algebraical symbols may gradually be introduced to indicate the quantities involved in general problems.

After the child enters school, the development of his concepts is so much influenced by his teaching that it is difficult to distinguish the effects of training from natural tendencies. It may be said in general, however, that whereas before going to school, ideas *grow* according as opportunities and interests are favorable or otherwise, in school they are forced, cut to a pattern and to a considerable extent built. The course of study and the lesson planning seem to make it necessary that a new concept such as latitude, fractions, government, verb, etc., shall be acquired within a day or two, instead of gradually growing out of experience in locating places on the globe, dealing with parts of things, groups, etc. Even if concrete material is used,

attention is often at once called to essential characteristics, names given and terms defined, and the pupil is thus "given" a rather fully developed "concept" in a few minutes. Such ideas, although they can be expressed accurately in the words of the definition that has been learned, and perhaps can be used for some purposes, lack the substantial meaning associated with ideas that have grown naturally and slowly out of experiences, and have been fixed by interest and by the consequences of acting upon certain forms of the idea. Only one who has had much experience in earning and spending money has a substantial conception of the value of a dollar.

It is true that the modern child has so much to learn that a more rapid mode of learning than that of experience is needed in the school. It is also true that it is possible to obtain quite usable ideas with only a little concrete experience. It is one of the chief purposes of education to give children ability to acquire good concepts in a short time. This purpose is often defeated, however, by the attempt to get them to do this very soon after they enter school and to get about the same sort of ideas that adults have. The demand that so much and of a certain standard shall be learned in each grade, has led teachers to try to "give" children ideas and to get them to learn certain expressions, instead of to foster the *growth* of ideas in their minds. The more the former policy is followed the more it needs to be, and children attain great proficiency in acquiring the *appearance* of knowledge while they lose the power to *grow* ideas in a natural way.

The child's ideas of truth during this period are still closely related to his practical experiences, to the ex-

periences of others of whom he has heard, and to the opinions of those around him. It is a period in which he often is very credulous and also very skeptical. His knowledge of life outside his immediate surroundings is wholly dependent upon the testimony of others and he is led by the supporting opinion of those whom he knows, to accept as true many wonderful things that he has never seen; hence he may be ready to believe almost anything. This is well illustrated by his belief in superstitious signs and traditions. He is lacking in standards by which to judge of truth and depends upon the apparent belief of those he knows, regarding many things. He has, however, probably been tricked in various ways by his elders and his mates and hence may have become skeptical regarding what is told him. He is very much inclined to test by experience, whenever possible, the truth of what he has been told and if he cannot make the test himself, to obtain confirmation from those in whom he has confidence or to secure extra assurance from companions by requiring such statements as, "Honor bright," "Cross my heart," "Hope to die," etc. The following, quoted by Small (Ped. Sem. vol. vi, pp. 313–380), is a good illustration of skeptical testing of the statement of another: —

"Children playing in a yard. John: 'Where 's my knife, Mary?'

Mary: 'D'n'ow.'

John: 'You know you have taken it.'

Mary: 'I have n't got your old knife.'

John: 'Then you have lost it.'

Mary: 'I have not had your old knife. So there.'

John: 'Honor bright?'

Mary: 'Honor bright.'

John: 'Cross your heart?'

Mary: 'Cross my heart.'

John: 'Cross your heart and hope to die?'

Mary: 'Cross my heart and hope to die.'

John: 'Crook your little finger and hope the worms may eat you if you are telling a lie?' (Very slowly and impressively.)

Mary left the company. She seemed very angry. Presently she returned, threw the knife at her brother and started away. The children called after her, 'Oh, you said honor bright and cross my heart.' They did not play with her again for a week."

At about the middle of this period there is likely to be some playful reasoning activity, shown in the child's interest in solving riddles and puzzles. There is also a good deal of reasoning in connection with practical affairs, but until near the close of this period the tendency to philosophical reflection and abstract reasoning is rarely any greater than, if as great as, it was for a time in the preceding period. The crude philosophical system that the child formed during the preceding period satisfies his intellectual needs, and he is interested in practical affairs rather than in truth itself or in ultimate explanations. The playful reasoning prepares the way for the more serious reasoning of the next period.

Feelings and Will. The feelings during this period undergo no sudden or profound changes. The primitive emotions that are already present, remain and become connected with various objects and experiences and combine in various ways, but there is no distinctly new instinctive emotion unless it be that of rivalry, which becomes very prominent during this period. The germs of this emotion were perhaps shown in the enjoyment

of power when showing off so as to attract the attention of others. Now it takes the more definite form of striving to keep up with or surpass others and plays a dominant part in the child's emotional and volitional life.

The child's sentiments develop gradually under the influence of experience, teaching and example. The pleasant or unpleasant results associated with things and acts determine his sentiments toward them. He is also very much influenced by the expressed sentiments of those whom he knows and of whom he reads. Teaching, in the form of general statements, has little influence unless tested by his own experience or illustrated by concrete experiences of others. Ideals of beauty, truth and goodness are largely determined by the child's surroundings and teaching, but his own experience in playing with his companions has much to do with his fundamental ideas of justice.

In conduct, primitive influences still play a considerable part, but many of his actions are controlled by habit, while comparatively few are the result of deliberate volition. In voluntary decisions the child is greatly influenced by the pleasurable or painful results that are to be experienced, those that are immediate and certain having much greater influence than those that are remote and doubtful.

In deciding as to what is prudent or right a child may be greatly influenced by the thought of what persons he knows or has read of would do or have done, but he is only very slightly guided in his decision by abstract general principles of prudence and right, although those which are expressed in proverbs and precepts are sometimes influential. Only where general truths have been clearly associated with some striking concrete ex-

perience do they have much living force in determining his volitional activity. Proverbs that arouse concrete pictures or general truths directly connected with an example may become powerful influences in moulding sentiment and directing action. The vivid phrase, "Finding is keeping," associated with the act, has had much more influence than the more abstract, "Honesty is the best policy," while, "If at first you don't succeed, try, try again," is more concrete and effective than, "Where there is a will there is a way."

In developing the power to control his various activities, the child has greatly increased his will power. His achievements in this direction are most marked in the line of physical movements. In the former period he was pretty well satisfied if he could make movements of the general character necessary to accomplish his ends. Now he is not satisfied merely with being able to do things, but he must be able to do them as quickly, accurately and easily as any of his companions. In his competitive games and sports and his expressive activities of speaking, writing, drawing and constructing, he develops a power of motor control sometimes rivaling that of adults.

In his day dreaming and still more in his constructive imagining he acquires a considerable degree of control over his mental images. He has as yet, however, little power of controlling his emotions and trains of thought. In his plays, games, study and work he acquires some facility in directing his attention. His attention, if not held by the immediate object, is directed by the idea of the end to be gained. This idea is effective in proportion as the end is concrete, immediate and closely related to instinctively desirable results. The child has

within himself little power of voluntarily directing his attention at the request or command of another. His efforts in response to such a command often result in little more than assuming attitudes that he knows will be interpreted as signs of attention.

Very rarely does a child have much voluntary control over his feelings. He may, however, acquire during this period, considerable indirect control of his feelings by controlling his expression of them and by occupying himself with other things.

With many children the power to learn and to recall at will remains very limited during this period. In many children in the first half of this period as well as in the preceding, the effort to learn anything seems to interfere with, rather than to help, the learning process and the individual learns better incidentally than voluntarily. This condition sometimes persists in adults, who, when gripped by an idea, can do remarkable work but who cannot direct their efforts as they choose with any effectiveness.

Whatever increases the child's facility in movement, imaging, remembering, attending, prepares the way for his voluntary control of these processes, increases his confidence in himself and adds to his will power, hence all physical and mental training is a means of developing the will. Experience in choosing and directing action in accordance with choices is needed to develop freedom of voluntary control.

Will power is gained, not merely by being induced in some way to make an effort, but by being directed in such a way as to succeed. In other words, will may to a certain extent be developed more by doing easy things than by doing things which, because of fatigue, lack of

interest or want of knowledge, are difficult to do. The amount and degree of success, rather than the frequency and intensity of effort, make for progress in the development of volition. This progress is most shown, however, when difficult and disagreeable tasks are persisted in until the pleasures of success are obtained.

When a child is fatigued or uninterested, even intense and honestly directed effort is likely to be either totally unsuccessful or result in the thing being done in a careless or uneconomical way. Frequently ineffective modes of working are thus established in school because the children do not make sufficient effort to learn to do things in effective ways, and they thus form poor habits of working. A shorter time spent in concentrated effort accomplishes more, tends to better habits and strengthens the will.

Will power is therefore developed through doing with concentration things that can be done effectively, for ends that are increasingly remote and that require the coördination of many activities before they can be secured.

Obedience and Conformity to Law. This is the most important period for establishing the framework of character upon the basis previously laid, in such a way that it will endure the strain of adolescent changes and maintain its fundamental structure in the man that then develops. Every child must be conformable to law yet free in some respects. Only a well-developed personality, in whose character law has become an inherent part, can be a law unto himself. The "eternal must" lies back of the individual and only after it has been a part of life's experience can it be an effective basis of the ideal of duty. Nothing can be more unfortunate for

an individual than to be governed by no law save that of his own desires. During this period of development is the time for the establishment of standards of conduct both in the form of more or less blind habits and in the form of conscious ideas and ideals.

There is reason therefore in the claim that the chief habit developed and duty taught during this period should be that of obedience. It is a mistake, however, to suppose that obedience is the only way to develop the habit and ideals of conformity to law. The most effective way of bringing this about is by incidental habit formation and by conformity to customs of people among whom the child lives. If everybody follows certain customs, e. g., wearing clothes on the street, it will seem to the child almost inconceivable that one should do otherwise. The same is true of many of the most fundamental moral and religious customs. The child who sees nearly every one conforming to these customs and expressing horror or fear at the few cases of failure to conform, will as a rule follow them without question, even though the act is disagreeable in itself. The child, like the savage, readily conforms blindly and superstitiously to well-established customs and such conformity is the fundamental basis of character and will.

It is necessary to require obedience because it is desirable that children should conform to a somewhat different set of regulations from those customary among adults. This is really necessary because of the fact that the child is living a shielded and protected life and is preparing for the necessary activities of a later stage. A certain amount of compulsion is therefore necessary during the school period in order that the child may be fitted not only for the tasks of manhood and woman-

hood but for the position of a useful citizen in a society where every man does not "what is right in his own eyes" but conforms to the expressed will of society in the form of laws. Obedience must at first be to the child personal obedience, but it should become more and more plain to him that the one he obeys is not forcing his own wishes upon him but is merely the enforcer of laws that must also be obeyed by others. The reason for these laws does not usually need to be explained in detail at this time. If he feels that they are fixed, as are customs, that is sufficient. A certain amount of obedience and conformity to customs and laws which are recognized as fundamental, though not understood, is of great value in guarding against the tendency to make pleasure the standard, and in preparation for forming and adhering to higher ideals of duty and right.

Law and customs are very effectively impressed upon the child by the formality and regularity that characterize railroads, factories, and all well-regulated societies, especially those of the church and of the school. System can easily be carried to an extreme in school, but a certain amount of formality in passing in and out, in following a definite program, and in controlling one's position and movements in school, etc., is of great value in developing the tendency to regulate conduct. This must not be too detailed or continue too long, or the tendency to react and engage in totally unregulated action will become very strong, as is sometimes shown when there is strict discipline in the school and anarchy on the playground, or anarchy in the schoolroom when the teacher goes away. There should be some regulation and some freedom both in school and out. Regulation

in school should be for facilitating work, and on the playground for increasing the joy of play.

With a certain minimum of blind obedience and conformity to customs, the child needs much enlightening experience and teaching. He gets this first in coming in contact with nature's forces in the earlier stages of development, though too often parents intervene in order to shield him from bruises or burns and to save him trouble, and thus unintentionally they prevent his getting a full realization of the necessity of conforming to nature's laws.

In this fourth period he needs further experience with nature, such as may best be found on a farm, but may be gained in constructive work and in school gardening, as well as in sports or games. To get the full benefit of such exercises he must be permitted to make some mistakes and find out for himself the laws to which he must conform if he is to succeed in doing what he wishes with the various kinds of materials that he uses. Direction by the teacher as to how he is to proceed in each case will not develop knowledge of, and conformity to, fundamental laws of nature, although it may get things done as she wishes.

Work which is begun and carried on because of the desire to reach a certain end, is especially valuable in developing will power. This is true whether the end is to avoid disagreeable results or to secure ends positively attractive. In both cases the end to be gained and the conditions and materials connected with attaining it direct the activity. Everything that the person does in such self-directed work is in conformity to laws whose necessity the person himself perceives. He is conforming, not to the will of another which may change at any

time, but to inevitable, unchanging laws, which he learns sooner or later it is useless to resist and foolish not to recognize. A child may in anger destroy what he is trying to make, but after much experience in constructing successfully, either alone or with the aid of helpful suggestions from others, he takes care to study the materials and conditions and to direct his actions accordingly.

Although there is some natural objection by children to set tasks whose immediate advantages are not appreciated, yet such work also has a value. A child enjoys much more his periods of free self-direction that follow periods of required and directed activity. If left to his own resources all the time he wearies of his plays and is perhaps miserable because he does not know what he wants to do. He may therefore come to prefer direction part of the time; and such temporary subordinating of his will to authority, rule, custom or routine, if wisely timed and directed, prepares for more vigorous and enjoyable self-direction.

To a certain extent, children during this period like to be directed part of the time, without caring to have any explanation of why they should do what is required. If they are made to realize that it must be done, they submit and rather enjoy it. They will submit as a rule to direction and control by any adult who assumes it and consistently exercises it in certain well-defined lines that leave the child free to do as he pleases within certain understood limits. Such regulation of one's conduct in certain respects by authority is useful all through life, and may best be established as a permanent habit of mind and will during this period. Consistent, self-respecting exercise of authority, with unvarying en-

forcement, easily inspires respect and leads to fixed habits. On the other hand, indefinite, poorly enforced demands utterly fail. Capricious exercise of authority leads to personal resentment, while continuous direction, extending to every detail, leads either to rebellion against all law, or to slavish conformity to direction, and inability to direct one's own actions at any time. It is highly desirable therefore that authoritative control, so far as assumed, should be consistently and vigorously exercised.

Since in civilized society many things are obtained in indirect ways, it is necessary that the child shall early learn the part that money plays in securing things that are desired. Instead of being raised or made, most things can be obtained by giving money for them. It is as important that the child shall know how much money must be given for various articles, as it is to know just what process must be gone through in order to make toys or raise fruits. He needs to know also what process must be gone through in order to get any given amount of money.

Before a child enters school he should have a regular allowance to spend as he pleases, and means should be taken to help him to learn that things of more lasting value may be obtained by saving money for a while than by spending it as fast as it is obtained. At the beginning of this period, if not before, he should also be given opportunity to earn money, being paid approximately what the work would cost if an adult did it. He should also be held to a fairly high standard of performance, approaching as nearly as practicable that recognized in the industries, in order that he may get ideals and habits comformable to conditions as they exist

in society. No amount of study of problems in arithmetic can give such intellectual and moral training as experience in earning and spending money.

A boy who was given an allowance from the time he was about four years old was also required to perform regularly certain household tasks. He used the money to buy presents and whatever things he desired. He also paid for whatever articles he broke or destroyed. If he failed to perform his task well he was liable to lose his allowance, while if he did extra well or saved his money to the end of the week, he was allowed something extra; but if more than a certain amount was spent for candy, the allowance was less for the week in proportion to the extra amount spent. He was not allowed to expect pay for everything he was asked to do, but he was frequently allowed an agreed price for the performance of special tasks. He spent little money for candy and bought a good many little things that he wished. He did not, however, appreciate the general value of money well enough to care much for opportunities to earn money except when he had in mind a specific thing that he wished to buy. On the other hand, his sister a little older, treated in the same way, spent her money as fast as she got it and rarely bought anything of permanent value.

When the boy was seven years old, he was anxious to buy a bicycle and began to save five dollars for a second-hand one. He was given many extra jobs, but sometimes found it hard to work for something that seemed so distant. He once asked to be made to work, but his request was refused. He said: "The only way I can make myself work is by scolding myself. I got myself to work that way to-day." After he had earned

five dollars, a new bicycle was got for him that he was to work to pay for. A bargain was made with him to pay him a dollar a week, on condition that he would do whatever tasks were given him without fussing or delay. This involved the same principle as working for a salary, instead of working only by the job when he wanted the money and liked the job. He did very well for a number of weeks, but as the amount of work to be done became less as winter came on he showed an occasional tendency to object to doing what he was told. He was reminded of the contract but finally said he would give it up and work by the job, and he was allowed to do so. He was then paid whatever the tasks assigned were worth. The amount earned each week was much less than he had been paid, and soon he wished that he had not thrown up his contract. He was not however allowed to return to the salary plan, and it was many weeks before he earned enough to pay for his wheel. The next year he began to get a little careless about leaving his wheel out and was told that he would have to attend to it himself without reminder or it would be likely to get wet. He forgot it and from being in the rain, then in the sun, one wheel was badly warped. It cost him two dollars to get it fixed. He paid it with regret but without complaint.

From associating with other persons and especially from playing with other children, the child learns some of the fundamental laws of human intercourse, and this is preëminently the period in which this knowledge is to be obtained in a practical way by such association. Conformity to law is now emphasized in all forms of organized play in which there are certain rules of the game to be followed. It is in the greater

pleasure of following rules in games, instead of each doing as he pleases, that real love for law finds its beginning, and the child willingly subordinates his own wishes to the rules of the game. No teaching of civics or conformity to school regulation can give such training in respect for law and the habit of conformity to social regulation as is gained from engaging in well-regulated play. One who associates much with people on equal terms realizes that he must recognize human nature in dealing with persons, just as he must recognize the nature of materials in constructing things. He finds that it does not pay to get angry at people, but does pay to study them and treat them in the way that will bring the desired result.

The child gains much of value in his moral and will-development not only from inanimate objects, from working with plants and from associating with companions, but also from experiences in caring for pets, playing with and teaching them. Imaginary pets such as dolls give something of the same training but in a playful way. In dealing with actual pets that must be fed and treated in accordance with their nature, more serious study and more exact conformity to conditions, times and the real nature of what is dealt with, are necessary, and the effect upon will-development is correspondingly great. While the preceding period is the one in which dolls and toys have their greatest value, this is the special time for gaining valuable experience from pets, and the next period gives more complete knowledge of social laws.

EXERCISES

1. Does a competitive exercise appeal as much to a first as to a fifth-grade child?

2. Illustrate the comparative influence of the opinion of teachers and of companions in the first grade and in the fifth.

3. Describe any instance you have observed of the effects upon a child of being introduced to a new environment.

4. Discuss the desirability and practicability of correlating the social influences of home, school, street, library, church, etc., in the education of children.

5. Discuss the relative advantages of individual and group competition and the various ways of utilizing the tendency in school.

6. Describe a number of instances of chumming and of leadership in children of this age, and the effects upon those concerned.

7. Describe your experience with a child who was much inclined to tease, and with one very sensitive to being teased.

8. Make a list of humorous literature suitable for children.

9. Make three or four ink blots and have the children tell what they are pictures of.

10. Make a list of words that children most often confuse in reading and spelling and see if you can tell why.

11. Describe instances of children failing to represent or to understand representations of space-relations, and explain as well as you can the reason.

12. Describe the perceptive training that takes place while a child is trying to reproduce the form and color of a leaf.

13. Ask your children to tell how many inch cubes a two-inch cube will make and how many colored sides each small cube will have if the large cube was colored on the outside. Also such questions as how many feet high a building is and how long it would take to walk up a mountain of a certain height or across a certain state, and thus judge of the constructive imagination of your pupils in spatial lines. Drawings of what

has been described may also be used as tests of constructive activity in connection with reading. Test the effects of using a few objects or diagrams in a lesson in history or geography, and of giving a similar lesson by means of words only.

14. Describe instances of the inability of children to reproduce general or abstract truths in their own words, and of their ability to reproduce stories of concrete experiences.

15. Make a study of the definitions of children at different ages.

16. Describe modes of testing truth which you have known children to use.

17. Describe individual children who have little control over their movements and attention, and of those who have a good deal. How much change in the first type have you known to be produced by training? What means were most effective?

18. Discuss the relative prominence that should be given to plays, games and sports, and to work; also to imitation and to authority in will-training during this period.

19. Is it well to give children at eleven or twelve an allowance not only for their personal pleasures and gifts to others, but for buying some articles of clothing? Why?

20. Discuss the value of pets to care for, in the development of children during this period, giving reminiscences or observations.

CHAPTER VIII

THE PUBERTAL OR EARLY ADOLESCENT PERIOD

Characteristics and Changes. The changes during this period, which extends from twelve to eighteen, are so great and so numerous that the distinction between it and the preceding period has been generally recognized. The physical changes which come first are numerous and extensive, followed by changes in kind and degree of feeling; then come profound intellectual changes, which usually extend over the next period.

The change in the size of the body as a whole, and in the relative proportion of each part and organ to every other part, is so complete that the organic sensations which supply the conscious background for the self-life are greatly modified. New sensations also appear with the changes in all the organs and the development of sex-life, hence the youth must again become acquainted with his own organism. His conscious life is so changed that his condition is in some respects similar to that experienced at the beginning of the third stage, when a conscious self has just been developed and is to be individualized. The person is now to become not simply an adult individual, but a man or woman, with all the sex characteristics and social attitudes implied in the term.

If the physiological changes are rapid, especially if there are at the same time considerable changes in the way in which the child is treated by parents and others, old habits of acting, feeling and thinking may be en-

tirely broken up, and only after a period of variable and more or less erratic behavior, is the self reorganized and a new individuality established. In other cases, where the physiological changes are more gradual and the child is treated much as he has been, yet with a little more freedom given him, the new impulses and feelings may be incorporated into the old life without any very marked break or a period of great variability.

When the child has been and still is kept under very strict authoritative control, he may continue outwardly much the same, but at the same time be developing secretly a new life not at all in harmony with the outward one; or if he is a strong personality, he may submit for a time and then suddenly rebel against authority. In such cases, it is not unusual for him to go directly contrary to all of his previous teaching.

This period, like the third, is a critical one and especially difficult to deal with. Those in authority often find the relations between themselves and the child completely changed, so that they no longer understand each other and are perhaps at cross purposes or arrayed in actual antagonism. In other more fortunate cases the bond between parents and child may become closer, because the child is now better able to understand and appreciate the thoughts and feelings of adults than ever before. Before this time the child has, unless acquired through training, little feeling of responsibility; his chief business has been to compete and get all he could for himself. Now, however, partly as the result of the development of the racial, parental or sex instinct, which changes his attitude not only toward the other sex but toward every one, and partly as the result

of his coöperative activities, especially in games where individuals of one group coöperate in competing, he begins to feel the necessity of sacrifice and loyalty to the group and has more tendency to giving and helping instead of merely receiving and achieving. He realizes as never before something of the obligation to give to others what he desires them to give to him, and sometimes shows a strong tendency toward self-sacrifice even when it is not necessary.

As authoritative control is lessened and he notices more the results of his conduct, he realizes to a greater extent his own personal responsibility to others and to society. He looks further out into the world and further into the future and begins to prepare himself for the place he wishes to occupy in the broader field of life. His imitations are no longer simply of what is new, striking and interesting, but of what appeals to him as in some way admirable. In other words, he begins to form ideals of personality and conduct instead of accepting more or less passively those that are presented to him. These ideals may change frequently, and he himself may try many modes of action to learn how such actions feel, much as does the child in the individualizing stage from three to six; yet he gradually selects and perfects his ideals of life and sooner or later begins to mould his life in accordance with them. It not unfrequently happens that after the more altruistic emotions have been aroused the youth may still be very thoughtless of others' feelings and perhaps very lax in controlling his actions in accordance with his better impulses.

Although the pubertal period is marked by the greatest changes of all, it is exceedingly difficult to

make general statements as to the exact nature and order of development in each line. There is a bewildering mingling of old instinctive tendencies, physiological processes and habits, with new impulses, ideals and habits. Some hereditary characteristics are being outgrown, while others not previously shown are becoming prominent; hence seemingly fundamental individual characteristics may be much increased or decreased or replaced by others.

Every statistical study of physical and mental characteristics that has been made shows marked variation in the curves of change at or soon after the beginning of this period. The tests made by different investigators do not, however, show marked changes at exactly the same time, even when the same characteristics are supposed to have been tested.

Even such an easily determined characteristic as change in height at this period cannot be determined accurately by statistical methods based on the averages of groups of different ages. According to the averages in the tables of growth in height, the acceleration extends over a period of three to five years; but there is good reason to believe that the period is almost universally shorter in individuals, lasting only from one to three years. The reason for the difference is to be found in the fact that the figures based on the measurement of many children include at each age some individuals that have not begun to grow rapidly and some that have finished their rapid growth, as well as those who are at the maximum of accelerated growth; hence the average increase each year is less than the actual growth of individuals who are in the midst of the period of rapid growth, and the acceleration appears to last longer than

it actually does in individuals. What is true of growth in height is true of every other characteristic.

It follows, therefore, that in lines where measurements can be made with less exactness and in which variability is greater as to time of appearance (which is true of all mental characteristics), it is impossible, by computing averages, to reach reliable generalizations as to the exact time at which changes will take place in individuals. Individual studies only can give a true picture of individual development. A large number of such individual studies could be treated statistically and generalizations of considerable value made; but even then the diversity of individual development would doubtless make extensive and exact generalizations difficult. Some generalizations may, however, even now be made with considerable assurance, only it must not be expected that they will apply to *all* individuals or that the *exact* time at which changes take place can be given.

Dr. G. Stanley Hall indicates the following contrasting characteristics that may be manifested by different persons, or sometimes by the same persons at different times: first, excessive activity in contrast with unusual alertness; second, great joyfulness with excessive laughter, in contrast with tears and melancholy; third, excessive egotism in contrast with excessive humbleness; fourth, strong altruistic impulses in contrast with extreme selfishness; fifth, unusual goodness with unusual badness of conduct; sixth, extreme boldness in contrast with painful shyness; seventh, indifference or cruelty in contrast with excessive sympathy; eighth, interest in everything in contrast with the condition in which nothing arouses interest; ninth, desire to know in con-

trast with desire to do; tenth, original radical views in contrast with most slavish acceptance of what adults and books say, and minute conformity to all customs and conventions.

Illustrations. The following reminiscences of changes and experiences at adolescence are quoted from Prof. E. G. Lancaster ("Psychology and Pedagogy of Adolescence," Ped. Sem. vol. v, pp. 61–128).

M. 18: "My chin has become more regular, cheek-bones more prominent, brow not as smooth, chest increased, hair darker, nose sharp and prominent. As a boy I looked like my father, but now more and more like my mother."

F. 18: "Chin longer, nose does not turn up as much, cheek-bones more prominent, hair darker, look more like father."

F. 19: "Ancestral traits have appeared. In my manner when angry, in keeping family relics and tracing pedigree, I am like father."

F. 21: "Everything in nature took on a new aspect of beauty at this time and appealed deeply to the senses of sight and smell."

F. 17: "Senses are keener. I see around me many things that I never did before. I take in and appreciate much more. Those sensations cause much more thought."

M. 21: "From a confident singer and speaker as a child I became very diffident and have hardly yet gained much power of expression."

M. 17: "Very difficult to think and speak at the same time; came to feel 'dumb-bound.'"

F. 28: "From twelve to eighteen I was fluent and

never failed for a word. Criticism at eighteen for use of language made me conscious and stumbling."

M. 18: "About twelve had feelings too deep for me to express."

F. 18: "I love my home but have times when I want to go away and try for myself, save for my parents more. Often tired of school."

F. 16: "I did not love my father or mother until about thirteen. I thought them nice. I feel more deeply all reproof and I have had times when I wanted to leave school."

F. 18: "Home more attractive. Parents' influence stronger but they do not command at all."

F. 17: "I grow very restless at home. When away from home I feel as if I could be perfectly happy at home."

F. 19: "At fourteen wanted to leave school and did so. Was out for six months and then went back with new zest."

F. 20: "At fourteen had great desire to break all rules of school simply because they were rules."

M. 20: "I have had many ideals, first statesmanship, then the ministry and now teaching."

M. 18: "A few years ago I wanted to be a pugilist and all-round sport. Now I want to be a lawyer or orator."

M. 20: "Have bad spells of languor. Brain seems totally inactive. Again something pushes me on and I know not how to stop."

F. 19: "At fourteen there were times when I had great loathing for any activity. Again felt like doing heavy work and crowding it. I do not notice those spells now."

M. 15: "I often have spells of despondency. Can understand a person's committing suicide. I have times of great joy and am pleased with everything."

F. 20: "From fourteen to nineteen I had often spells of despondency. I felt very sinful and lowly. Wanted sympathy. This was just after a joyful mood."

F. 19: "At thirteen had a sudden change of dress. Never cared how I looked before."

F. 17: "I have felt more desire to do right because it is right. Feel indignant toward wrong and wrongdoers."

F. 20: "Have often put myself on penance for wrong actions. I wore things I did not like or went without a favorite dish."

M. 25: "At fifteen had great desire to do just right and to help others. My greatest temptation was to give up everything, even my life, but the thought of my mother kept me from doing it."

M. 27: "Had after fourteen a desire to hit some one or do some violent act."

M. 21: "Criminal thoughts and impulses were more than flitting at times and required all the self-control possible to deal with them. Even that could not eliminate the thoughts."

F. 18: "At fifteen a new feeling toward God. He became a dear father. I felt unworthy of his love. Felt earnest to work for the welfare of others."

F. 16: "Religion was a form, now it has become full of meaning."

F. 17: "Since fourteen a new religious interest. Have longed to go on a mission since sixteen."

M. 21: "Religious feeling deeper than before twelve. Strong inclination to pray and to do missionary service to the poor. Need new grounds of faith."

F. 19: "From eight to twelve I liked pictures of birds, boys and girls. Now I like pictures in which there is sentiment. I feel music very deeply. It often makes me cry."

F. 18: "At thirteen craved religious literature and history, then novels and plays. Now literature pertaining to God and nature appeals to me most."

F. 17: "First liked fairy tales, then novels, then books of travel. Wanted to write stories, tried and failed."

M. 22: "At fourteen I had a retreat in the barn where I collected and arranged stones, shells, wood, etc. Would spend hours there."

M. 22: "I naturally liked science but a series of teachers whom I disliked caused me to avoid this."

M. 26: "From fourteen to sixteen curiosity regarding my physical nature became very intense. I had a deep sense of mystery. This was increased when I learned that our senses do not report correctly the outer world."

SENSORY AND MOTOR DEVELOPMENT.

Although we cannot state the character of changes in sensations during this period, we can be very sure that there usually are great changes. Changes in absolute and relative size of the body and its various organs, and changes in the rate and intensity of the physiological processes of respiration, circulation and nutrition, together with the development of almost wholly new organs, must produce profound changes in the organic sensations that form the background of consciousness. Besides these changes there are considerable modifications in all the special sensations, which sometimes be-

come much more intense, while in other cases they seem for a time to be markedly dull.

The most common change is probably in the relation of sensation to feelings. Sensations of touch, sound, color and odor often have a new emotional and sentimental significance. They not only serve the biological and practical needs, but they often appeal as never before to æsthetic and other sentiments. Intellectually, perception is much the same as in the preceding period, but the feelings associated with objects of perception and the attitudes of attraction or repulsion toward them are very much more marked.

The motor-changes, though variable, are subject to more exact measurements. There is during this period a remarkable increase in strength and a great gain in rapidity and accuracy of movement in many lines, but there is also, in a large number of cases, a period of imperfect coördination of movement in which the individual is decidedly clumsy. In the presence of others this clumsiness may take the form of painful awkwardness, in which the individual does not know what to do with his hands and feet and is unable to manage them as he wishes. The period of clumsiness may be due in part to lack of correlation in growth of bones, muscles and tendons, loose-jointedness resulting from the relatively too rapid growth of the latter. It is also probably due to imperfect connection between the various sense- and motor-centers of the brain. The changes in the vocal cords also frequently cause the youth a good deal of trouble and embarrassment in controlling his voice.

Writing habits that were apparently pretty well established are frequently changed at this time and usually for the worse. This may be caused in part by

the same changes that produce general clumsiness, though the necessity of writing more rapidly, which is usually felt at this time, is a factor. There is probably also a change in the coördinations of the muscles and centers concerned, so that those that formerly took a leading part are subordinated to others. The fingers have perhaps been most used, and in changing to forearm or combined movements, there is a period of poor writing, which, if care is not taken to improve, may become established as a habit.

There is good reason to believe that a great variety of motor activity during this period is highly desirable, in order that all of the muscles of the body and the centers controlling them may be effectually connected so that they can be used in any desired combination, now with one group and now with another, so that in every case every other part of the body shall adapt itself to the movement, and assist instead of hindering it. It is in accord with this need that the youth is likely to be much interested in sports and games involving a variety of movements, and opposed to doing one thing for a long time.

FEELINGS

There is never a time when the feelings are so intense and varied as during the pubertal period. Many emotions and sentiments, if not wholly new, take on a new character. This is especially true of social, æsthetic, moral, religious and intellectual feelings. In the preceding period there has been much chumming and some coöperative competition, but the feeling of loyalty to a friend, or to a group to which one belongs, is, up to this time, a matter of cultivation rather than of natural

growth. Now, however, it develops naturally, often in a very marked degree. Social sensitiveness generally is greatly increased, so that the pain of embarrassment and shame and the enjoyment of success and commendation are multiplied many-fold. The youth, in choosing companions, thinks more of mental qualities and cares more for what people think and less of what they do, than during the latter part of the preceding period.

The social consciousness with reference to the other sex is now greatly changed. Previous to this, chumming between boys and girls is or would be rather common, if it were not restrained by fear or ridicule; and the feeling toward a chum of the opposite sex is usually much the same as toward those of the same sex. At first the feeling is often manifested freely, but ridicule diminishes its manifestations. Sometimes there is a period of heightened interest in those of the opposite sex before puberty that, especially in the case of boys, is carefully concealed. At about the beginning of the pubertal period, there is often, however, a transition stage, in which the sexes seem to avoid each other and are, to a considerable extent, antagonistic. In the course of a year or two there is again mutual attraction, while at the same time there is increased æsthetic appreciation and a greater regard for social conventions. Hence at this time an excessive interest in dress and manners often develops, especially in the presence of the opposite sex. All forms of showing off are also greatly increased, except when inhibited by shyness. It is evident, therefore, that there is a very close relation between the development of sex-attraction, æsthetic appreciation and a broader social development.

In the preceding period, size and power have been

most admired, but now this admiration must compete with that felt for beauty and goodness and, in the next period, for truth. It is during this period that boys and girls become distinctly moral instead of being largely unmoral. Previous to this they may have had good habits and may have strongly desired to act in ways others regarded as good, but there was little control of action by the child's own ideals of goodness. Now there is often developed a deeper feeling of what is right and of responsibility for doing it. There is real selfishness and unselfishness, according as altruistic impulses triumph over, or succumb to, individualistic instincts. Previous to this there had been little or no impulse to sacrifice self for the good of another, but only to get some good for self that was valued more than the good that was relinquished.

The development that takes place in connection with the sex, social, æsthetic and moral impulses finds its culmination in the development of the religious impulses. Religion furnishes the highest ideals of power, beauty and goodness, and the social impulse to get into proper relation, not only with individuals but with groups and with all humanity, is readily turned toward the idea of getting into proper relation with what is conceived as the supreme source of all life and especially of all consciousness. More conversions occur during the last three years of this period than in any other three years of life, while about two-thirds of all conversions take place between twelve and twenty.

In the earlier awakening of the religious impulse there is frequently an acceptance of whatever religious creed is taught, without much questioning as to its truth, much as was the case in the third period of development. At

that time religious ideas were more a matter of intellect, while now it is the feelings that are usually most stirred. To make its most powerful appeal religion must involve mystery; and in this peculiarly sensitive stage of development, youths and maidens are very susceptible to influences that are little understood. In many instances there is little or no desire at this time to understand religious doctrines, but a desire to believe and feel the mysterious forces that are suggested by religious exercises. The intellectual interest in religion may also be aroused at this time, but it is more likely to dominate in the next period, when abstract logical and scientific thought has become more prominent.

Illustrations of Feelings. The following illustrations of adolescent feeling are from Lancaster (*op. cit.*), and from Smith ("Types of Adolescent Affection," Ped. Sem. vol. xi, pp. 178–203).

F. 21: "At thirteen nature became a real, almost human thing to me. It seemed to respond to a cry for something higher."

F. 17: "I have spells when I feel that I must be alone. I think of the past and what I will do in the future. I watch objects in nature and think of God. I watch the stars appear one by one."

F. 18: "I have felt that trees, flowers and birds understood me. Have hugged a tree and almost worshiped the moon. Intense love of color and perfume of flowers."

F. 21: "After fourteen, when my adolescence began I had a change of feeling toward nature. I loved to get up early and take long walks alone before breakfast. Liked to watch moon and stars. Loved flowers and wore a large bunch when I could get them."

F. 13: "Had played with a boy of my own age for several years. He was a neighbor and we had good times together. When we entered the grammar school we naturally walked to and from school together and our names were soon coupled. I soon grew shy and self-conscious and began to think myself in love with him. We were both silly for a time. It ended in the spoiling of a pleasant, wholesome friendship."

F. 15: "Attached to a boy of the same age. Talked of him continually; lessons suffered. When she could talk to him would hardly speak to any one else. Much alike in taste, etc. Does not like to hear about it now."

(Very few love affairs before sixteen end in marriage and the girl at least is usually ashamed of her feelings and actions afterwards.)

F. 14: "Became much attached to her new tutor who was twenty. He was poor but educated and refined; never lost patience with her. She became very anxious to please him and after a time allowed him to select all her books. She was obliged to obey him, while she usually had all her own way with the boys she knew. Think it was not foolish but a very helpful attachment, and that she acquired habits of reading and industry and learned to overcome her passions."

M. 14 — M. 17: "Both fine boys. The affection between them almost lover-like and frankly expressed, although there never was any excessive exhibition of it. The younger was intellectually superior, full of fun and mischief. The older, slower but of solid worth, was in a way a balance-wheel for the younger. Both are men now and the friendship continues."

F. 13 — F. 14: "Are devoted to each other: share everything; always want to be dressed as much alike

as possible. When the family went to the seashore, one begged to be allowed to stay at home and visit B. instead."

M. 19—F. 30: "She was his ideal of beautiful womanhood. She gave him her picture and he afterwards said of it that he did not dare even to think of anything that he should n't, with that picture in the room. The influence was one of the best in his life."

F. 33: "At fourteen I had my first case of love, but it was with a girl. It was insane, intense love, had the same quality and sensations as my first love for a man at eighteen. In neither case was the object idealized. I was perfectly aware of their faults, nevertheless my whole being was lost, immersed in their existence. The first lasted two years, the second seven years. No love has since ever been so intense, but now these persons, though living, are no more to me than the veriest stranger."

F. 17: "Selfish by nature but for the last year or two, by thinking a moment, I become generous."

F. 17: "I am more self-assertive. I have streaks of being unselfish and the opposite."

Self-consciousness. The pubertal period is preëminently the period when self-consciousness develops. It may be prominent at other times, but almost surely becomes so during this period, and may then become a fixed characteristic of the individual. The fact that the bodily self is rapidly changing and thus modifying the background of consciousness as well as calling attention to various parts of the body, tends to draw attention to self. The instinctive impulses are also changing, so that the young person, without intending it, finds himself acting and feeling in novel ways; and this also tends to

draw attention to himself. Social sensitiveness is also increased at this time, so that what other persons do, say or think with reference to one's self produces much greater effects.

There has been a species of self-consciousness before this, but usually of a different type; the self has been the center of all things, and all things, including persons, have been valued in proportion as they could contribute to the pleasure and exaltation of that self, although consciousness of self as such was not prominent. Now, instead of being concerned chiefly with what he may do or get, his consciousness is turned inward toward his own mental states, and the youth thinks more of what he is and may become. He therefore often finds self more interesting than anything else. The very fact of having ideals calls attention to characteristics of the self that need to be changed, and this also fosters self-consciousness and sometimes produces hesitation and constraint.

There is no period at which there is so much danger of the individual becoming too self-conscious. The conscious personality that has been developed is variable enough to arouse self-consciousness, hence objective interests are needed to divert attention from self. If one's own personality becomes more interesting than the outside world, and more interesting than any other person, there is serious danger that through the constant inbreeding of thought and lack of fresh vitalizing experiences of things and persons, the conscious life may get out of harmony with the objective world and with the social environment. If it were not for the fact that the new instinct coming at this time tends to increase interest in the conscious personality of others, the danger of

over-development of self-consciousness would be still greater.

It is not at all unusual for a person of this age to become completely fascinated with some other person, sometimes a chum, more often an older person, frequently of the same sex, so that the acts, thoughts and feelings of the admired individual are of more interest than anything else in the world. This, though sometimes unfortunate in its results, is often advantageous, while extreme absorption in self has no compensating advantages. Sometimes characters in history or literature may be the objects of admiration. If a young person is fortunate in being attracted toward a strong, well-rounded personality, the result is good, not only in preventing too much contemplation of self, but also in the formation of character.

The development of extreme self-consciousness is most dangerous when the mind is dominated by the sex-feelings, which are now coming into prominence. This is a time therefore when the youth is most benefited by mingling with others of the same and the opposite sex under circumstances in which conventions largely determine how one shall conduct one's self. It is distinctly not a time for much close association of two individuals of the opposite sex when alone.

The idea that one may not be perfectly normal in some respect, especially in a sexual way, may gain lodgment and poison the whole conscious life. The danger from ideas connected with this phase of development is much greater than from any others, partly because the instinct with which they are associated is one of the strongest and partly because of the secrecy maintained with reference to it. The individual usually has little opportu-

nity, either from his own observations or from conversation with others, to correct erroneous ideas that he may have formed. Even if there is no thought of one's self as being abnormal, it is unfortunate for the mind to be occupied definitely with thoughts directly connected with the instinct coming into prominence. It is much better if the thoughts are occupied with other things and simply made more vigorous because of the presence of the sex-impulse and the heightened feeling of personality that it gives.

For these reasons it is especially important that persons during this period should not be left to themselves too much with nothing to do. There should be a good deal of freedom, in order that the individuality may be developed; but entire leaving alone is not so desirable as at the earlier time of developing conscious individuality during the period from three to six. In order that the person shall not be too much occupied at this time with thoughts of self, he should be surrounded by plenty of objective things of interest and should be occupied a considerable portion of the time with sports, games, work and study; and he should have a good deal of association with other persons of his own age, of both sexes. Many persons at this time have a desire for solitary reflection, and the thoughts and dreams at such times may be of the greatest value in developing a strong individual personality; but as already indicated, there are grave dangers connected with too much solitary dreaming.

It is quite certain that there will, at this time, be some interest in the opposite sex, unless there is a very unusual degree of interest and complete preoccupation with objective activities and studies. If the young person is in constant contact with those of the opposite sex, his im-

agination is likely to be concerned less with thoughts of them, than if he has little or no contact. There is far less chance for the development of abnormal ideas when in the actual presence of others of the opposite sex, and in daily association with them in company with one's own sex, than where they are never seen and the images and ideas that are formed have no normal and natural corrective.

Even when sex-feelings do not occupy the mind and no abnormal ideas are developed as the result of increased self-consciousness at this time, the habit of introspection and minute self-observation thus established, may detract from the joy of life and sometimes prevent one from doing his most effective work in the world. Even conscientiousness may be over-developed and produce hesitation and waste of energy.

Although it is not desirable during this period that one's life should be directed in all things by rule, yet some things should be pretty definitely fixed as regards the daily program and as to the kind of behavior that shall be permitted under various circumstances. He should do what he wishes part of the time, but should be definitely directed part of the time, and should always have something besides himself to occupy his attention. Something in which he is interested, that stimulates him to achieve, even though not valuable in itself, is absolutely necessary. All sorts of stunts and fads may thus temporarily serve a useful purpose, but deeper interests should also be aroused and means for their gratification found.

Imagination and Day-dreaming. Although this period may be described from the intellectual side as a period of thought-development, in contrast with the pre-

ceding, which was a period of imaginative development, yet this is a period in which the imagination is very active in picturing future possibilities. Most of the influences that tend to make the individual self-conscious at this time, also tend to lead him to imaginings of all kinds. In the preceding period, the chief activity of the imagination was constructive, while in this period it is largely creative as it was in the third period. It is now, however, less playful and more concerned with the formation of ideals and plans for life. Whereas in the fourth period the person learned to represent the unseen world as it is, he now spends much time in day-dreams in which the world, especially in relation to himself, is represented according as it may be or as he hopes it may become.

In freedom this imaginative activity is somewhat like the earlier, imaginative play, but now there is much more selection of material and arrangement of the combined or resulting images, according to one's taste, ideals and desires, and with more regard for possibilities. Imagination now concerns itself with all sorts of interesting objects and activities, and usually represents these in their highest and most desirable form. The young person is continually having imaginary experiences and doing things similar to those in his real life, but infinitely more satisfying and successful. Even when the every-day life is very commonplace, a life that is far from commonplace is often lived in imagination. Books that give extreme instances of strength, endurance, beauty, wisdom, and remarkable and exciting adventures of every kind, are much desired as stimuli to the imagination, and they also serve as patterns in the formation of ideals of what one is to become.

Sometimes these day-dreams are so far removed from real objective life that they have little influence upon conduct. The individual may be almost the opposite in every particular of what he is in his day-dreams, and what should stimulate him to act may serve simply as a stimulus to his imagination. It is partly for this reason that association and competition with others of his own age, and much of objective interest to occupy the mind, are of such value. Without such associations and interests, and especially without athletic contests, the boy may become almost as imaginative and sentimental as girls not unfrequently are.

If the boy's dreams of what may be done by means of agility and strength are never fully realized, they serve their purpose if they lead him to engage in actual contests and achieve some successes. The necessary bond between ideals and achievements is thus preserved, so that ideals continue to be stimuli to action and directors of activity. The day-dreams and ideals, when compared with actual achievements in games and sports, and with opinions of others, are kept more sane and normal. Day-dreams and ideals regarding physical achievements are much more readily normalized than are those connected with intellectual and artistic efforts. It is not difficult to get one's self properly appraised as a runner or a jumper, but it is frequently very difficult to get youths to form a more sane judgment of their intellectual, artistic or literary abilities. The one, however, who has had his ideals of physical achievement normalized by objective experiences, is usually easily led to form more correct and practical ideas in other lines.

All day-dreams at this period include not simply a

representation of something as being done, but also of another person or persons as witnessing the achievement. The pleasure experienced is not so much in the thing itself, as in the thought of how it will be viewed by others or by one particular person.

In a large proportion of cases, some person of the opposite sex, either real or imaginary, is represented as having a part in the achievements or as a witness of them. Athletics and other objective interests, although concerned in these dreams, tend to prevent them from becoming abnormal. It is in part the lack of such interests that often makes the girl's day-dreams more sentimental than the boy's.

The day-dreams and imaginings, although of less intellectual value than the constructive imaginations of the preceding period, are of far more significance in the development of individual character. Life means a thousand pictured possibilities, and usually there is more or less of an impulse to realize some or all of those possibilities. In nearly every case some of the possibilities become ideals and help direct conduct during longer or shorter periods, and not unfrequently throughout the whole life.

Little can be done by parent or teacher in a positive and specific way toward determining just what the imaginative activity shall be during this period. Indirectly, much may be done by furnishing literature that stimulates the imagination and provides abundant opportunity for the choice of ideals, and on the other hand by providing for a large amount of objective activity in competition, and especially in coöperation, with others.

Illustrations of Day-dreaming. The following ex-

amples of reverie or day-dreaming are chosen from Lancaster (Ped. Sem. vol. v, pp. 61–128), and from Partridge (Ped. Sem. vol. v, pp. 444–474).

F. 18: "As a child I dreamed much of the future. Wanted to be a musician, elocutionist, artist, milliner, bookkeeper, dressmaker and a school-teacher. Have often desired to be as beautiful in character as Christ himself."

M. 21: "I longed for and dreamed of unheard-of things."

F. 19: "I have had deep reverie and longing. I often think how happy I should be if I could excel in some one thing I like. I have dreamed of being able and longed to sing like Patti, to play like the old masters, to write like Shakespeare. I have dreamed of going through college and becoming very learned, of becoming a missionary, of being rich and doing much to relieve the poor, of being good. I have longed to possess all virtue, absolute truthfulness and unselfishness."

F. 17: "Sometimes I go over my past and make my experiences much more satisfactory than they were when they originally occurred. Again I imagine myself famous as a singer, when in reality I cannot sing at all. Then again I think of myself as winning many degrees and as admired for my scholarship: as a matter of fact I am not especially brilliant in any line. Some of the scenes I linger over a long time, especially those in which I figure as a shining light."

F. 17: "I am shy with strangers, but afterwards imagine myself as entertaining, talking and smiling and being the center of attraction."

F. 17: "I love to day-dream, thinking of what I shall do with my money when I become rich. I dream of all

the luxuries that money will buy, how I shall help the poor, etc. I think of myself as in a beautiful cottage by the sea, in a luxuriously furnished home, with a large library and everything magnificent."

Development of Thought. In the previous period the child acquires power to think in a representative way. His thinking now becomes less concrete, less a mere matter of representation, and more concerned with relations and general truths. It is a period in which a great number of truths regarding things and persons, that have been heard and read, are more completely abstracted and generalized and new ones learned. It is preëminently the time in which the youth acquires for himself the practical, and, to some extent, the scientific truths that have been discovered by the race. In the previous period, a knowledge of things and persons outside of the immediate environment was satisfactory when the objects and processes could be clearly represented. Now there is more desire to know not only the what, but the how and why, regarding all phenomena, both present and remote.

The interest in the how and why is not a mere playful interest as in the third period, nor is it chiefly an abstract interest as in the sixth, but it is often primarily a practical interest. The individual begins to look upon himself as a doer, and is interested to know how the race does things and why they must be done in one way rather than in another. He is not at first ready for abstract science, but he is interested in the rules, principles and general truths that are recognized in the various processes carried on by the persons that he knows and hears of, and in the materials and devices used in order to obtain the best results.

In the third stage of development, the child is satisfied with dramatic representations of the various processes that interest him. In the next stage, things must be so constructed that they can be manipulated in the same way as are the real objects and machines. Toward the latter part of the fourth period, he begins to demand that things shall actually be useful. In the fifth period this demand becomes stronger. The individual is already beginning to consider what his own life-work shall be and he is interested in finding out about all sorts of machines, occupations and methods. This is preëminently, therefore, a time for becoming acquainted with the principles of science as utilized in the arts and industries. The natural introduction to pure science is through its application rather than in the reverse direction. It is a period in which many concepts are acquired, standards of truth and probability formed, and general truths learned.

Truths expressed in other than concrete form are now better understood, and it is possible to acquire meanings of new words by means of definitions, to a much greater extent than formerly; yet the general must be related to the concrete if it is to have much significance to the child. In the previous period the power to reproduce stories and descriptions is gained, while in this period there is more ability to understand meanings and express them in other words. There is much more of a tendency to compare facts that have been gained from various sources and to follow out in thought possibilities regarding men and things.

Such activities as these rapidly prepare the way for abstract thinking and reasoning. In some individuals in this period, and in more in the next period, there is

a marked tendency to carry these processes of generalization and abstraction to an extreme, in a similar way to that shown in the early stage of individualization from three to six. The concrete and representable loses its interest, and the young person delights in wide generalizations and abstract utterances. Abstract mathematics and generalizations in history, science and literature frequently acquire an intense interest. The ability to reason and to argue develops rapidly, and the reasoning is much less concrete and involves more definite consciousness of general truths. The tendency to hasty inductions and wide generalizations is usually quite marked, but deductive reasoning is often carried on with a good deal of accuracy. There are thus two principal types of interest, one of which is likely to be developed at this time, the practical and the scientific. Artistic and literary interests are in some, however, more prominent than either of the above.

Memory. In memory of real experiences and of symbols there is little difference between this and the preceding stage. Questions regarding earliest memories indicate that memories of early experiences are less readily recalled at this time than at an earlier and a later period. This may be partly because the present is more interesting than the past and partly because more settled habits than exist during this period are favorable to the ready recall of the past.

The ability to remember visual symbols is usually greater at this time than the ability to remember auditory symbols. This is doubtless due to the constantly increasing familiarity with the visual symbols fostered by reading, writing and written arithmetic.

There is in general considerable increase in the

ability to learn lessons of all kinds, except when exact word reproductions are required. This is due to the increased power of thought and increased knowledge concerning the relation of events, facts and truths. Some individuals, however, either because of unwise insistence on the part of the teacher or because of unusual memory for symbols, may continue to depend on memory rather than on thought in their studying. In other cases, where there is a good deal of ability to reason or to guess at the truth, there may be too little exactness of memory. Rarely do we find one who remembers thoughts and words equally well.

One of the most important changes in regard to memory during this period is in the ability to select what shall be remembered and recall it at the proper time or with its proper associations. Memory now serves practical purposes better than formerly. The youth can not only recall what he knows, when requested to do so, but he himself thinks of what he has learned that will help him in the present case. In other words, memory, instead of being an end in itself, becomes more the servant of imagination, reasoning and volition.

Temporary memory of practical things, such as messages and errands, often decreases because the individual has at this time a broader and more intense subjective life, and is less affected by outside influences, and because he has fewer settled habits than at an earlier period, hence what should suggest an errand or message to him, fails to do so. Memory of what has been learned from books may be very good and of practical every-day affairs very poor.

In school special effort should be made to prevent

the youth from becoming a verbal memorizer instead of a thinker. Just as in the previous period he should learn to translate words into images and to express mental pictures in words, so in this period he should learn to think meanings and to express thoughts in words. Early in this period is a critical time during which the teacher should help children to learn how to study, instead of permitting and almost forcing them to memorize verbally what they do not understand, in order to meet school requirements.

Moral and Volitional Development. The development of new organs and new instincts at this time involves a complete readjustment of relations between the various nerve centers, before the higher centers can act harmoniously and effectively in controlling the lower centers. Volitional activity, whatever the desire be, is for this reason likely to be somewhat unstable for some time. There is, however, during this period usually a rapid progress toward a definite type of volitional control, partly because there is probably never a period in which so many decisions are taken and resolutions formed. Old habits of activity are broken up, while new habits are unstable and principles of conduct are not well established; hence, what at an earlier period would be a matter of habit, and at a later period a matter of reference to some settled principle of conduct, must now be governed almost wholly by conscious volition or by pure impulse. The necessity of making many decisions naturally either develops the youth's own will or else makes him more than ever dependent upon common practice or the advice of some one else.

On the social side, the individual is far more sensi-

tive than formerly and the impulse to act for the good of others is much stronger. In the period preceding this, children form a great many societies in imitation of adults, while in this period they form societies according to their own notions, for their own ends, and not simply for playful, imitative activity. It is a period in which boys form gangs of their own if they are not led to join some society that meets their needs. It is preëminently the period for developing the virtue of loyalty to companions, class, school and country, and to any other organization to which one may belong. Sometimes this virtue is over-developed or prolonged into a later period in a way that makes the individual support his friend, society or party, regardless of whether they are in the right or the wrong. In the preceding period the child has learned to value the public opinion of the group to which he belongs and has acquired an appreciation of the rules involved in games. Now he develops still further in these directions. In competition he wishes his side to succeed, not simply in order that he shall thereby become more prominent, but in order that his side, class, group or gang shall be exalted whether he himself comes into individual prominence or not.

It is a period in which he appreciates to a much greater extent the larger social self, instead of simply his own individual self. In the period from three to six there was a similar differentiation between the individual and the social self, with the greater emphasis placed on the individual self. With more liberty and a wider environment, the youth now comes to know and appreciate the general principles of social behavior as represented in rules of politeness, styles in clothing, and standards of moral conduct. He forms his ideas of

these things, not simply from his surroundings, but also, as all studies of children's ideals show, from literature and history.

Many opposing models of conduct are presented to him and he frequently tests different kinds of behavior both in thought and act. Almost any kind of conduct is possible during this frequently chaotic period in moral and volitional development, without producing permanent effects upon character. Inquiries of Swift, addressed to successful business and professional men, indicate that a very large proportion of those who are now our best citizens have during the pubertal period been engaged in escapades which in the eyes of the law would make them criminals. Even such a talented and useful citizen as General Lew Wallace became, escaped convict life only by chance; for when he was pursued by the owner of a goose that he had stolen, he was prepared to shoot if attacked; but fortunately the man did not come up with him.

Any undesirable conduct, engaged in for only a short time during this period, is likely to produce no permanent deficiency in character and may sometimes, in strong personalities, insure a more intelligent appreciation of good and evil with greater power to sympathize with and influence others. Any undesirable form of conduct, however, that is repeated during a considerable period of this time, gives not simply knowledge, but habits and tendencies that prevent the development of a well-rounded, strong character. Knowledge may often better be gained through the newspaper and through literature than through actual experience. The truth to be emphasized is not that wrongdoing is harmless at this age, but merely that a few experiences of evil are less

destructive of moral character than after the character has been more fully formed. Although careers of crime are usually begun at this time, yet the chances of making good citizens out of youths who have committed criminal acts is very good if they are surrounded by favorable influences.

In moral development, as in other forms of learning, the natural order of development is first by trial activities, then by imitation, finally by the method of understanding, which usually involves the interpretation of symbols visual and auditory. In this new life upon which the youth is entering, all of these methods are likely to be used, either together, or in the order named. The results are likely to be very unfortunate, if only the latter method is used during this period; for the knowledge gained lacks a sufficient basis in experience, and there is always the danger that there shall at a later period be either too much dependence on example or a reversion to the trial method at a time when deviations from strict moral standards produce permanent blots upon character. It is highly desirable that the youth shall be held very strictly to certain modes of action and yet at the same time have a good deal of liberty, and that he shall not be wholly shielded from contact with evil. Care should be taken, however, that he shall have plenty of opportunity for imitation of good models as well as of bad, for forming good ideals in contrast with the bad of which he also learns, and that he shall not be shielded from all the results of bad conduct.

The more glaringly bad a person or book, the less dangerous are they to a young man, and it is often better for him to see for himself what they are, than for

him to be authoritatively kept from them. The more subtle dangers of outward fairness but of inward rottenness need to be guarded against more carefully, but some experience with these, rightly directed, is of value in developing more reliable judgments of what is really good and what is really bad.

This is not only a period in which religious careers begin in a large proportion of cases, but one also in which a life of criminality is most frequently begun. It is the most critical of all periods, so far as the development of future character is concerned, and yet it is a period in which it is most dangerous to interfere and attempt to produce at once the type of character desired, without giving any opportunity for the youth to know the various possibilities opened to him and the results of different types of conduct.

What is needed at this time, more than anything else — except a few strictly enforced rules or some responsibilities that necessitate the regulation of conduct, with freedom as to details — is a confident faith in the youth and his ultimate honor and success, by some one whom he knows and in whom he has confidence. The belief of such a person that a youth is honorable and will ultimately do the right thing, although he may go wrong for a while, is one of the most powerful and steadying influences during the adolescent period. Many men have become noble and great because of a mother's faith in them.

As the youth forms ideals and learns the general principles governing social and moral relations, he is all the time gaining practice in deciding in accordance with one or another principle of conduct. He thus gradually forms a higher system of habits and ideals, and later is

able to decide a large proportion of concrete questions of conduct with little or no conscious effort. When these higher habits of judgment are well developed and closely connected with the lower habits in practical affairs, we have a well-developed, harmonious character. In some persons this condition is never reached, because opposing principles of conduct are alternately followed, or because practical conduct is not closely associated with the theoretical judgment of what should be done.

It is during the latter part of this period that will begins to attain its greatest authority. If the training has been good, the muscular apparatus is completely under control and the mental apparatus almost equally so. The individual gains power to direct his imaginings, his memory and his thinking in any direction that he chooses. Changes in all these respects are so rapid that, either at the close of this period or at the beginning of the next, the youth often feels that all things are possible to him, and he may, when there is a stimulating ideal, show a vigor and persistence of will not surpassed at any other period. The roll of young soldiers and martyrs is therefore a long one, and young people are usually the first to volunteer and often the last to give up when high endeavor is demanded.

Never does one feel so vividly that he can be anything or do anything that he desires. This assurance should and often does lead to immediate direction of effort toward ends that are desired; but sometimes the individual, resting in the assurance that he can succeed when he wishes to make the effort, may for a time idly enjoy the present. If this condition is prolonged too far, permanent inefficiency may result. Some kind of necessity for action is often needed; and when it is furnished,

achievement may rapidly take the place of imagined possibilities, even in the case of those who have seemingly never before made any serious efforts.

EXERCISES

1. Describe marked changes that you remember in yourself at adolescence, or that you have observed in others.
2. Describe any instances of sudden or frequent alternation in characteristics or behavior.
3. What changes in writing in the upper grades have you noticed, and to what do you ascribe them?
4. Report evidences of increased variety and intensity of feelings at this time.
5. Describe instances of extreme self-consciousness and discuss influences that tend to increase or decrease it.
6. Make a list of the various activities that should be encouraged in adolescence.
7. Report instances of day-dreaming and discuss the possible dangers and advantages of such dreaming.
8. Describe instances of a love for large words and for wide generalization.
9. Should much exact verbal memorizing be required at this time? Why? Should the youth be asked to reproduce often in his own words? Why? Is it a good time for learning rules?
10. What may be done at this time to develop ideals?
11. Should principles of right conduct be explained at this time? Why?

CHAPTER IX

LATER ADOLESCENCE

General Description. This period, from eighteen to twenty-four, may be compared with that from six to twelve. At six the infant has become a child with a well-defined conscious individuality. The characteristics already possessed are simply developed during the next six years, without any sudden changes or important additions. At eighteen the girl and the boy have become the woman and the man, with the sex-characteristics already pretty well defined. Each now develops and fixes his or her individual habits and ideals. In the earlier period the characteristics of the child become better defined and in this, those of the adult. The physical development after this age is very slight and there is no marked change in instinctive tendencies. Hereditary tendencies have nearly all shown themselves, and individual characteristics, native and acquired, are now defined and developed in special lines. The emotions and sentiments broaden and deepen, but their essential nature is likely to remain much the same.

The chief change that takes place is in intellectual lines, especially in the higher activities of abstract or specialized thought. The sensory motor powers and the powers of perception, imagination and memory change but little in a general way, but are usually during this time developed to a considerable extent in special lines. Specialization in all these respects usually begins in the preceding period and is now carried

out in detail. If there are opportunities, however, for mental activity and stimuli to effort, such as are best supplied in college and university, very great changes in the power of thought may take place during this period. Now if ever the individual learns to think abstractly by means of symbols, while images of things play a smaller part in his intellectual activities. This is the time for the study of abstract mathematics, pure science, philosophy and logic.

One's general views of life are likely to be pretty well developed at this time. When these are in accord with past beliefs and habits, there is gradual development, specialization, and strengthening of character. There is no sudden or marked change between puberty and complete maturity. In a considerable proportion of cases, however, there is more or less complete and rapid evolution, and sometimes revolution, in ideas and beliefs, occasionally accompanied by very strong feelings. This is perhaps more often the case when old beliefs were carried through the pubertal period without being subject at that time to any revisal or readjustment to conform to changes in feelings and in the general outlook upon the world.

The most frequent cause of a season of storm and stress at this period is a change in religious beliefs brought about by scientific and philosophical studies. Sometimes the earlier religious beliefs are so closely associated with all the feelings and habits of the individual, that it seems to be impossible to continue to feel or act as formerly, if the old beliefs are given up.

Sometimes there is a complete change in the character at this time. More frequently, however, the fundamental habits remain much the same, but with many

specializations, while the feelings are perhaps decreased in intensity and modified in various ways without being radically changed. If some common ground is found between old and new beliefs and conceptions, harmony of thought, feeling and action ensues. In other cases no satisfactory adjustment of old and new conceptions is found, and one or the other is banished from thought. The individual may then develop permanent views either conservative or radical. In other cases there may be no permanent predominance of one type of belief, politics, religion or philosophy, but alternate leanings toward more radical or more conservative views.

This is therefore a critical period in the development of a unified personality. At no other period do intellectual conceptions play so prominent a part in the development of the individual. The youth's emotions, ideals, actions and habits are moulded by his conceptions to a greater extent than ever before. Instincts, emotions and habits are no longer most effective in determining actions and choices, but ideas. It is the beginning of the supremacy of the intellect in directing actions, against which, however, there may be occasional reactions. It is therefore preëminently a time for developing and harmonizing political, social, æsthetic, moral, philosophical and religious ideas, in order that the future life may be consistent and efficient. It is unfortunate, however, if beliefs and habits are too clearly defined and firmly established, so that the individual becomes narrow and non-progressive. While holding fast to fundamental principles in belief and action, there should remain a large measure of freedom to expand, develop and become adapted to changing

conditions, ideals, beliefs and practices that confront him as he grows older and society progresses.

EXERCISES

1. Can you remember having reconstructed your theology, philosophy or general estimate of values between eighteen and twenty-four? Describe the changes as well as you can.

2. What proportion of people do you think change their habits and ideals after twenty-five except in the way of specializing or developing them?

3. Mention some book or person that had great influence in forming or fixing your ideas during this period.

PART III

RELATION OF STAGES OF DEVELOPMENT TO EDUCATION

CHAPTER X

FUNCTION OF EDUCATION

Development. Much has been said in educational writing about development, as if that were the chief purpose of all teaching. Not only is it asserted that all the powers, physical, mental and moral, are to be developed as the result of the whole educational process, but certain subjects or exercises are introduced into the course because they are supposed to develop perception, memory, imagination or reasoning. These discussions sometimes seem to imply that unless the teacher attends to the matter the child will not be able to remember, imagine, etc. Those, however, who have observed children who have not been in school, need no proof to convince them that, without any formal teaching whatever, they are able to perceive, reason, etc., with great success, regarding all things that concern them. We are thus led to question whether it is the teacher's chief business to develop the child's mind. Paul may plant and Apollos may water, but it is God that giveth the increase. The educator may plan and the teacher may train, but the child develops because it is his God-given nature to do so.

The truth of the matter may be suggested by analogy. A gardener does a great deal of work in caring for his plants but he does not feel directly responsible for their *development*. The processes by which the nutriment is taken from the ground, carried up into branches and leaves and shaped into the forms of blos-

soms and fruit, are far more complicated than are being carried on in any chemical laboratory. The gardener does not lie awake nights worrying lest the sap shall not rise or the nutrient materials shall be taken to the wrong place or fail to be shaped as they should be in each species of plant. He has no fear lest apples shall form on the tomato-vines or squashes on the grape-vines. Nor is he desirous that the ear of corn should form before the tassel has appeared. He is firmly convinced that if he gives a plant a fair chance it will develop properly without any superintendence of the internal processes by himself. It would be well if the educator had something of the same faith regarding the child. If he is given a fair chance he will develop physically, mentally and morally, and the teacher should be careful lest he interfere with inner processes that are far more complicated than those involved in the development of plants.

Knowledge and Skill. Although, theoretically, teachers have been supposed to be engaged in the process of developing the minds of their pupils, they have as a matter of fact really been engaged in trying to impart to them knowledge and skill. While declaring that physical, mental and moral development is the function of education, educators have planned courses of study and methods of teaching, and have tested results, as if the chief function of education were to give knowledge. The importance of moral training is much emphasized by some educators, but the church and the home are especially charged with that, while the school is almost universally held responsible chiefly for intellectual training.

It is believed by each generation that if the children who form the coming generation are given certain

knowledge and skill, they will be able to make a living and also be able to live happy lives to a far greater extent than if they are not given such instruction and training; hence courses of study are prescribed for children and youth.

The ideas of what knowledge and skill are of most value are determined in part by what has proved valuable to the preceding generation, and by consideration of what is likely to be of most value under the conditions that will confront the next generation. Theoretically the choice of what shall go into the course of study should be determined wholly in this way, but in actual practice the subjects chosen are to a considerable extent determined by tradition.

The sciences of psychology and pedagogy can give little or no assistance to society in choosing what shall be taught. They may throw some light on the results of teaching certain things, and may indicate how the facts to be presented may best be arranged and the methods that will result in the most rapid and effective acquisition of knowledge and skill. They cannot tell society what educational results it desires. They can, however, tell it how to get what it desires most easily and permanently.

Psychology may suggest some limitation of the amount that shall be taught in a certain line by pointing out the fact that extreme acquisitions along that line may result in physical disease or lack of mental equilibrium or in a certain type of mind and character that may or may not be desirable; but it can be of no assistance whatever in choosing *what* is desirable. It can only tell what will be the result of giving a certain kind of knowledge at a certain time and rate, and then

society can decide whether the special value of what is being given more than compensates for any undesirable or weakening effects. In the industries it seems to be economical to employ children in factories; but when physiologists, psychologists and sociologists point out the fact that such early specialization injures the child and greatly limits his usefulness as a man, it is recognized that society should not permit child-labor. In a similar way it may recognize that there are limitations as to the degree of knowledge and skill in any line that it is best to ask teachers to give to children. The teacher who is following a required course of study has only a limited choice as to what she shall teach her children. It is her business to teach what is required, and do the best she can in adapting it to the needs of the children in her charge.

Positive and Negative Aims in Education. Society desires not only that children shall learn certain useful things but that they shall become men and women of a certain type of personality. In selecting educative material, therefore, regard is had not only to the value of what is learned for general and special uses but also to the effect it may have upon emotions, intellect and character. Although the child, surrounded as he is by things and people, is sure to develop, and the educator is not directly responsible for the working of these inner processes any more than the gardener is responsible for the flow of the sap, yet he must recognize that all teaching and training that a child receives modify his development so that he has a different body, mind and character from what he would have if no special training were given him. The farmer can modify the development of his grapes or corn by the way in which

he trains, trims, fertilizes and cultivates them, but he has less control over the more fundamental conditions of light, heat and moisture upon which development depends. In a similar way the teacher may modify the child by special training, although the inner processes of development go on under the fundamental conditions of physical and social environment that exist for every human being who is not a hermit. School and teaching modify in a greater or less degree these conditions of development, and control action so as to modify development. By thus modifying the conditions and providing stimuli for development, the child may be made to conform to a greater or less extent to the ideals of society as to what men and women should be.

This means that there can be no intelligent modification of development without an ideal as to what is desired. The gardener will pursue a different course according as he wishes a grapevine to serve as shade or as a bearer of fruit, and the stock-raiser according as he wants cattle to produce milk or to serve as beef. In a similar way, society may desire workers, savants or artists, and choose the training to be given accordingly. But the gardener and stock-raiser must consider not only the particular results they desire, but also the general life of the plant or animal, lest they injure its vitality by over-development of the special characteristics desired. In a similar way the educator must consider not only the knowledge and skill and general type of conduct desired, but must take care that in giving them he does not seriously interfere with the natural processes of development, and thus check, distort and weaken instead of bringing out and adding to the natural strength and power of the individual.

It may be that we shall some time know how to train in such a way as to produce greater general power than would develop if we merely made conditions favorable and attempted to give no special training; but at the present time, with the work organized as it is, we are quite as likely to weaken the individual as a whole by any special training that we give him. For the present, with our courses of study planned as they are, the aim of the teacher must be chiefly positive as to what knowledge, skill, habits and ideals we shall give children, that they may be useful and happy in our present stage of civilization, and negative as regards development, — the aim being chiefly to interfere with the natural processes to as slight an extent as possible. In other words, our problem is to impart knowledge and skill such as society requires, without injuring the child any more than we can help.

In the physical training this is recognized to a considerable extent already. The sprinter is given the special training that will enable him to win the race, and the hammer-thrower, the boatman, and the football-player each receive a particular sort of training; yet it is recognized that there must be no over-training in any of these lines, lest the body as a whole be weakened and the athlete fail even in his specialty. It is now generally recognized that, if a child is left free to do as he pleases, where there is plenty of opportunity for plays and sports of all kinds and some companionship to stimulate him, his physical development will be good. Few if any physical trainers would undertake to direct *all* the exercise of a child under sixteen in such a way as to make him *generally* stronger and more efficient physically than he would be if he were left free to ex-

ercise as he wished, under favorable conditions. It is now recognized that many boys have been injured by special forms of athletic training, and that if any special training is given at this time, the negative aim of not injuring the boy must be kept very prominently in mind. In the case of young or mature men, in whom the changes due to inner-growth processes are less rapid and varied, the need of keeping in mind this negative aim is less, yet is still recognized by physical trainers.

The intellectual trainer has been much less cautious. He has apparently scarcely thought of the possibility of injuring a child's mind by training it in specific ways. There is good reason, however, for believing that in early childhood freedom is more important to good mental development than it is to good physical development. The mind of the child may be more injured by "thorough" mental training of any particular kind, than the body by any special form of physical training.

This theoretical view is supported by the fact that children who are in favorable home surroundings but do not go to school are generally recognized as developing mentally much more rapidly and healthfully than those who are being directed in their mental activity five hours a day in the schoolroom. A distinct decrease in mental alertness and acumen is often to be observed in children after a few years in school. They are learning, yet their mental development is being retarded instead of accelerated. It must also be recognized that specific attempts at early moral training are sometimes not only unsuccessful but positively harmful, the child becoming worse than if he had been subjected to no special teaching or authoritative control, but had been

allowed to learn from experience and imitation how to conduct himself in relation to other people.

In so far as a child is protected from danger and from the natural results of his own acts, he of course must be controlled by some one else, both for his own good and for the comfort of those among whom he lives. The person, however, who attempts thus artificially to shield and control a child all of the time, needs to be very wise indeed if in thus directing conduct according to the ideals of society, he does not weaken or distort the fundamental springs of conduct that make strong and noble character possible. Some control and teaching are necessary, that the child may be fitted to take a proper place in society; but the aim here, as in physical and intellectual training, is positive in that some things must be required and taught and conditions made as favorable as possible for the desired form of development, but chiefly negative in that the training must be given in such a way that the natural, strong, self-directive character of the human personality shall not be weakened.

The old-time reformatory, in which boys were taught and directed all of the time, is typical of the cases where almost the whole responsibility for the moral training is taken by those in authority. The George Junior Republic is typical of cases in which conditions for moral development are made favorable but little attempt made specifically to control conduct or teach morality. The kind of boys turned out by these contrasting institutions, indicates that the dangers of trying to produce moral character authoritatively are considerable.

Notwithstanding the fact that teachers need at the present time chiefly to have their attention called to the

negative ideal as regards development, yet there is now, and will be in the future to a still greater extent, a place for positive ideals as to development. At present, however, these ideals can be worked out with assurance only in training for the performance of special functions and in more advanced training that helps to prepare for occupations, while we must trust more to nature and good environment in the development of young children.

It is possible to plan in a more or less scientific way the training that will best prepare one to become a successful lawyer, doctor, engineer, machinist, etc., and this ideal may include some positive characteristics of mind and character not necessarily involved in the possession of certain knowledge and skill, however acquired; yet the negative ideal of not interfering with the development of the individuality of the person receiving the professional or technical training, must be kept in mind. In a similar way there may be a positive ideal as to the characteristic of mind and character the school may seek to develop that will make children stronger, better, more efficient men and women, whatever position in life they may fill. In higher education it is possible at the present time, in the light of the world's experience, to give with some success such culture and training. We know now something of how the adult mind is moulded and developed by the study of special departments of knowledge, such as art, literature, language, mathematics, science and philosophy, although there is not as yet any complete agreement as to the nature and possibilities of general training. This much is, however, clear: the human race has learned a good deal regarding the methods of approaching the problems presented in these various fields,

and an individual human mind is necessarily moulded in accordance with the best product of racial experience, when it learns to approach the problems in the ways that have been found by the race most satisfactory and successful.

The positive ideal of training minds so that they will not react in individual ways that are haphazard, abnormal and wasteful, but in wholesome, normal and efficient ways, as do minds that are the best products of civilization, may very well be prominent in the minds of college and university teachers although the individual student should choose the field for which he wishes to perfect himself.

In the case of primary and grammar schools it is scarcely safe at the present time to be guided by such an ideal. The minds of children are not like the minds of adults in whom the inner factors of development have already produced their results. The attempts to get them to approach and solve problems in accordance with what has been found best for highly developed adult minds, is likely to injure rather than help. After we learn much more about children than we now know, and the courses of study have been made over, the primary and grammar teachers may form positive ideals of what children of each age should be and attempt to realize them. At present, however, they should have great regard for the negative ideal of not interfering with the child's development, and much confidence in the belief that what the child does and desires when he is naturally, genuinely, healthfully interested is favorable to the best development of his mind and character at that stage of development. The teacher should, however, present opportunities for acquiring broad and varied

interests in order that the child's development may not be too narrow.

Even in giving special training in motor-skill or in gaining certain required knowledge where general development is not the aim, the teacher must not be too ready to suppose that the ways of working and studying best suited to an adult will be best for the child. The probabilities are that he can use more successfully and with better effects on his motor and mental development, cruder and to him easier and simpler methods. His taste, skill and reasoning may not at first be improved by delicate colors, exact movements and abstract reasoning, as much as they are by bright colors, free movements and imaginative pictures.

In general, then, the older a pupil and the more specific the purpose for which he is being trained, the more is the school justified in prescribing what he shall study and how he shall work, while the younger the pupil and the more general the purpose to be accomplished, the more cautious should the educator be in imposing matter and method upon the individual. This means that the child's own natural interest under favorable conditions and his spontaneous ways of doing things are likely to promote his development as effectively as prescription and detailed direction by the teacher. She should therefore be sure, from actual experience rather than from theory, that the child's development will best be promoted by her control and direction before she interferes with what he wants to do and the way in which he does it.

The Undirected Learning of Children. Children not only develop the power to perceive, remember, imagine, reason, etc., without any special assistance, but they

acquire knowledge without special teaching. We may therefore very properly raise the question whether it is not worth while to study not only how they develop but also the methods by which they learn. The number of things learned by a child before he enters school, when compared with what he learns in an equal period after he enters school, forces one to question whether the directed learning in school is not a slower and less effective process than the undirected learning outside of school. A child begins to learn a language at about one year, and by the time he is three or four years old, few adults who have studied a new language in school have the practical command of it that he has of his language. The child, it is true, hears and uses the language more hours a day than does the person who is studying a language in school, yet he spends little time in serious attention to language learning because he is interested in so many other things. In learning his language he also has more to do than the older person in learning the foreign language, because he has to acquire the ideas as well as the words, and he has to get control of his vocal organs, which is one of the most difficult of motor-accomplishments, requiring very fine adjustments of many muscle groups.

If we compare a child's learning of oral language with the same child's learning of the corresponding visual language, the advantage is not always in favor of the school learning. The child in school has only to learn to recognize and to associate the visual word with the oral word and idea which are already known, while in learning to talk he must get the idea, the oral word, associate the two and learn to utter the latter. A child of two is likely to have a vocabulary of about four or

five hundred words, while one of three has about three times that number. After a year or two in school he frequently does not know so many visual words and can write and spell but few of them. Being able to reproduce or write a visual word corresponds to the motor-ability to utter the sounds of which a word is composed, and does not involve any finer motor-adjustment. It seems therefore that the language-teaching given in school does, to say the least, not produce more rapid learning than when the child learns without special teaching.

A comparison of what a child learns of nature is less easy, but there is good reason to believe that in this line the advantage is even less in favor of the directed learning of the school. These conclusions do not at all mean that schools are useless and that no attempt should be made to teach children, but they do mean that the educator should have great respect for the child's own spontaneous learning and should not be too hasty in supposing that the usual school methods are superior to the methods that are spontaneous and natural to the child.

Modes of Undirected Learning. Since children do learn so much and develop so rapidly without much teaching and directing, it seems that it is worth while to notice a little more closely the means they use in acquiring knowledge and skill.

Chance action, with resulting satisfaction or discomfort, and the consequent "stamping in" or eliminating of the tendency to certain movements, is of course always a feature of learning and one that is especially prominent in infancy and early childhood.

The most prominent characteristic of learning during

childhood is that the child learns and becomes like the people around him chiefly through imitation. He may also then and later become like people of whom he hears or reads but whom he has not seen. The perception or the mental picture of others and of their actions is thus a powerful influence to induce the child to make all sorts of movements and combinations of movements that would not occur by chance, and to induce more complex mental states in him as he grows older.

The child's activities by which he learns, whether chance or imitative, may be regarded as play and work. Many of the child's early activities partake of the nature of both play and work. They also tend to follow one another, and the desire to play often serves as a motive for working at something that is necessary to be done in order to play with the most satisfaction. Games with rules and with ends of temporary satisfaction are a form of directed play, so that there is direction of activity according to rule or toward an end, as in work.

Outside of school the child learns to work by playing, while in school the teacher often tries to transform work into play, and this reversal of the natural process does not usually give satisfactory results. The activity lacks the freedom of play and the vigor and the definite purposefulness of work. In other words it is "soft pedagogy."

The small child, in manipulating objects, in building things, and in dramatic plays of all kinds, is continually directing his activities and overcoming difficulties and thus is learning to work. Later, in competing with others in contests and games and in sports such as sliding, fishing, ball, etc., he endures hardships and puts forth his strongest efforts in the accomplishment

of ends that are necessary to beginning or continuing the enjoyable game or sport. If one began by giving a child a lesson in building with blocks or in learning to play ball it would be work for the child, and a later attempt to have him play the game would probably excite little interest. When on the other hand the child is given no directions as to what he shall do or when he shall engage in some activity, but is merely given the stimulus of objects to play with and the example of others playing, he is likely to begin playing with interest, and, as he plays, to learn more and more to direct his activity vigorously toward definite ends. Work and play are thus carried on with a vigor never shown when the process is reversed by pretending that the work is play.

In learning to talk the child first uses his vocal organs as a plaything, making all sorts of noises, — "*da*, *da*, *da*, *ma*, *ma*, *ma*," etc. Later, the playful activity becomes directed a little more as he begins to imitate the various sounds made around him. He may thus utter many words without purpose or meaning. Later, he tries to utter words as a means of getting what he wants from others and as a means of expressing himself. The power gained through play-interest thus prepares him to satisfy this work-interest. The method already described, by which a child from three to six comes to know the difference between images, memories and percepts, by playing that things and persons are what they are not, is also typical of a natural method of learning. In general, the child's most effective modes of learning are, as in this case, to a considerable extent the opposite of those usually prescribed by formal pedagogy.

The most essential thing in this natural learning is

that it is self-activity, either entirely free or directed only by imitative impulses or the desire to meet a situation and secure desirable ends. If the teacher can utilize natural interests in connection with educational materials and activities, the child may progress in school lines as fast as he does in other lines before entering school.

Common and Individual Characteristics. One of the most important questions that the educator has to consider is whether to follow the same general plan with all children or a special plan for each child. It is generally agreed that it is best for adult citizens, especially in a republic, to have a large proportion of similar acquirements, but that the individuality of each person shall be preserved, even when they all engage in the same occupations.

The common element is provided in all educational systems by a course of study which, during most of the period, is usually pretty much the same, whether the child is taught in schools, in large classes, or individually, at home, by parents or tutors. The methods of teaching in the two cases vary more than the subject-matter. The time to be spent upon each portion of the course of study needs to be still further varied to suit the individual. If the child's whole time were spent in school, where his activities were continually directed in common with the other children of his grade, there would undoubtedly be too great prominence given to the production of common characteristics, although even then children of strong personality would react to the same influences in different ways and thus develop some individuality. In institutions the conditions are frequently very unfavorable. The influences of authoritative direc-

tion and the experience of associating with children whose individuality has been largely suppressed by the same authoritative direction, almost inevitably interfere with the full development of individuality and give characteristics which experts quickly recognize as those of an "institutional child."

In the public schools, where the child spends only about five hours a day in the same kind of directed activity as his fellows, while the rest of his waking moments are spent in the greater freedom of the home, the danger of suppressing individuality is greatly minimized. This danger is, however, very great in the case of primary children. Their individuality is not well established, and when the child is brought into the new environment of the school and is required by a strange teacher to do just what forty other children are doing at just the same time and in the same way, and is restrained from doing the thousand and one things he would like to do or prevented from doing them in his own way, there is often, during school hours, an almost complete inhibition of individual tendencies. School habits of sitting, moving and thinking are soon established, and unless the child has a strong personality or a rich and free life outside of school, his individuality and the development of his physical and mental powers are seriously impaired in the first few grades. This is indicated by the fact that statistics show that there are more children who repeat the primary than the later grades.

The public school performs one of its greatest functions in developing common knowledge, habits and ideals in its future citizens, a function that it could not perform if all school teaching and regulation of conduct

were individual. A common standard of knowledge, power and achievement, to which every one is expected to conform, helps to mould the life of an individual in a normal way and to fix in his mind and character standards by means of which his achievements and ideals may be guided. Yet if the school were the only source from which he could gain ideas of what is expected of him, the results would be unfortunate, even in the case of children whose personalities are more fully developed than are those of primary children. But he is brought in contact with various other standards in his own home and other homes, in the street and in his reading, by which he may modify the standards that are being impressed upon him in school. For these reasons, and because of the great importance of competition between children who are trying to do the same things, both as a stimulus to activity and as a means of finding their real place as compared with others, it is not likely that the system of educating children in classes will ever be wholly given up, even if it were not less expensive than other methods. Some provision, however, needs to be made for giving children more individual teaching, especially in the primary grades.

There is a growing feeling that a considerable proportion of children of all ages cannot properly be educated with other children in the ordinary school. The reason for this will be clear when we recall the fact that this is the period of competition, in which one best develops himself and his powers by associating with a variety of persons of nearly his own powers and interests and competing with them in a number of the same activities. It is evident that those who are much superior or much inferior in the activities in which all

are engaged, are, if such a condition continues, in a somewhat abnormal situation, because they are shut off from any good, wholesome competition with their equals. By individual instruction such children may sometimes be made to fit into one of the regular grades, but in other cases they should either continue to receive individual instruction or else be placed in a class with other children of approximately their own ability or deficiency, although too much uniformity is to be avoided in forming groups for special instruction.

Besides children who are much inferior or much superior in general ability, there are some who are superior in one line of activity and inferior in another. Although the methods of dealing with such children may well be varied, it is generally believed that the course of study should be much the same for these as for other children during most of the grammar grades, although the time spent upon the course and upon the different subjects may well be varied to suit individual needs. There is good ground for this belief in the fact that they need to be normalized and that the graded-school period is especially well suited for making the common acquisitions necessary to the success and happiness of those who are to live together, while there is sufficient and more appropriate time later for making special acquisitions.

There are still other children who are exceptional in some way, usually in the form of some physical defect, which results in important changes in mental characteristics. Children who are deformed, or who are lacking in motor-control, or who have any other peculiarity which will readily be noticed, cannot easily acquire a normal development among normal children without a

great deal of individual attention. The child is often made to feel that he is different from other children by the comments and the actions of others, including the teacher. He is made to feel that he belongs in a separate class from the others, and cannot have the helpful experiences of common interests and competitive activity. Such children must either be educated in special classes or wholly by themselves, or there must be some kind of combination of these three forms of instruction, — individual, special class, and regular class teaching. The combination or alternation is likely to give the better results.

In dealing with individuals and with special classes of any of the types discussed above, the highest degree of tact and skill and of accurate and sound judgment is necessary. There is danger, on the one hand, that the parent or teacher will so fully realize and recognize the peculiarity of the pupil that she will treat him in such a way as to make him realize it and cause increased development and permanent retention of that peculiarity. When a child has little or no chance to compare himself with others of his own capacity, he is guided even more than ordinarily in his judgment of what he can do, by what his parent or teacher believes and expects of him. There is great danger, if she is sympathetic and realizes fully his deficiencies, that she will expect too little of him. She needs to fortify herself against this, and at the same time help the child to form ideals of his possibilities, by accounts of the greatest things that have been accomplished by persons laboring under the same handicap. She must know what the child's limitations are, but she must manifest that knowledge to the child as little as possible. Even if the child is

wholly deaf, it is better to talk to him just as if he could hear. These truths are now generally recognized by the best superintendents of institutions for the blind, the deaf and the feeble minded.

The opposite danger in the case of one who is acting as a tutor of either a normal or an exceptional child, is that of ignoring what the child really is, can do, and wishes to be, and trying to make him over into what she conceives he should become. A strong personality directing the education of an individual child may thus interfere with his normal development to a far greater extent than is likely to occur even under extreme institutional control with uniform and well-understood standards and rules. A weaker personality may fail to develop the child according to her ideals, but may at the same time prevent him from developing normally, because he is stirred up to oppose whatever she attempts, instead of developing along the line of his own individual tendencies; while a still weaker person serves as a means of making the child selfish and tyrannical by acting as a buffer to his stronger tendencies.

EXERCISES

1. Describe the ideals that have been prominent at different ages and in different nations. To what extent are our present courses of study in accordance with our present ideals?

2. What can psychology and child-study contribute to determining the general value of a classical as compared with a scientific, commercial or industrial course of study?

3. In what ways is there danger of injuring a child by thorough school-training in the first grade? In the fifth? In the tenth?

4. When should children begin to specialize and when may positive ideals in education become prominent?

5. Describe in detail the amount of knowledge and skill gained and the method of learning used by children in learning to play ball, construct a wireless telegraphy apparatus, or to do anything else outside of school.

6. Discuss the relative advantages of class, special class, individual or combined methods of teaching children of different types and ages.

CHAPTER XI

AIMS, MATERIALS AND METHODS AT DIFFERENT PERIODS

HITHERTO the aims of education have been regarded as much the same at all ages, but now that we realize how different children are at different stages of development, we begin to appreciate the need of recognizing this in education. Not only must different educational material be used but the aims and methods must be varied to suit the stage of development, if serious injury and retardation are not to result. Aims and methods that are well adapted to one stage of development may injure more than help when used too early, or when continued into the next stage. It follows, therefore, that we must consider the purposes, subjects and methods adapted to each stage. This is the specific demand which genetic psychology and child study are now making of educators.

A New Basis for Educational Courses. Courses of study have always been artificial, especially from the standpoint of the child. Adults have looked over the field and selected the knowledge and skill that seems most necessary or desirable for adult life and arranged the topics and exercises in what seemed to them the most logical way, or the way psychologically the best for effective learning. Experience has brought about many changes in this plan, but the fundamental ideas upon which courses of study were originally formed still dominate.

Since what is being learned is admittedly for use in the future rather than in the present, learning takes the prominent place in school instruction, in grading and promotion, and doing holds a subordinate place. The ideal of a systematic, logical or scientific arrangement of knowledge is also naturally made prominent. This frequently leads to the further assumption that whatever is thus presented is so formulated in the minds of the pupils. It is equally natural and logical that adult standards of accuracy in thought and expression should be applied to the work of children and also used in artistic and constructive work. If adult standards dominate in the making of a course of study, it is only proper that they should be applied in carrying it out; and the attempt to preserve the adult type of a course of study and to allow the child's standard of achievement to be used in carrying it out, can only result in a soft, inefficient pedagogy. In a similar way the attempt to appeal to the child's native interest when forcing upon him what is useful only to the adult, leads to artificiality and inefficiency.

The new idea in forming courses of study is that what the child is, and the conditions, materials and activities most favorable to his developing into what it is desired he shall become, shall determine the course of study in each stage of development, rather than the ideal of what the mature man needs to be, know or do. The child outside of school is not used to having the materials of knowledge presented in a systematic but in a more or less disconnected way, and he develops by organizing them according to his own needs and interests. He is not nearly so much interested in what he needs to know when he is a man, as in finding out

what helps him to accomplish some immediate, objective end, or answer some subjective question. He cares not for system, but only for that which helps him to do, or which satisfies his questioning. His mental grasp is small and his motives to action specific and immediate rather than general and remote, as in the case of adults.

The ideal course of study must recognize these truths and must be so broad and flexible as to meet all individual needs, and so planned to fit changing interests and abilities as to give the best opportunity for the development of the child into what the man should become. In such a course of study, learning and doing cannot be separated and motives lead and direct all the activity. This can only be accomplished by allowing the child facilities and stimuli for a variety of play and work suited to the stage of development he has reached and to his individual capacity. The units of such a course will consist of certain general play and work exercises suited to all the children, and a series of projects or things to do, adapted not only to the age but to individuals.

At first these projects may be carried on in a playful way, but gradually they should assume more of the work-type, not in the sense that they are forced upon the child instead of chosen by him, but in the sense that a more permanently valuable end to be attained is the dominant motive and the director of effort. This will lead the child to persist in a certain kind of activity and even to practice it because it is a means to a desired end. A child who undertakes to make an apron may find it desirable to practice a little in using the scissors in cutting before trying to cut it out, and to practice

the kind of stitch to be used before beginning to sew it together. The one who is planning a garden-plot or a box may find it necessary to study and practice with units of measure and to learn certain number-combinations and practice on certain kinds of problems. It will probably be necessary for him to find out by experience that he wastes time and materials by trying to do things without the necessary knowledge and skill. The more he can be led to appreciate this, the more ready will he be to engage in activities or drill-work that he can use for more remote ends.

An educational course based on the project idea, will, if properly planned and applied, lead to the mastery of the knowledge and skill required in special lines and useful to adults. Beginning with no differentiation, one portion of a subject after another will be selected for special study and practice, as the child sees its relation to desirable ends. Much of what is now gained by specialized study and drill can be gained from incidental practice in doing things, but some special study and drill is likely to be necessary. Just as fast as the child is able to perceive such necessity, is he ready to carry on the study of a special subject in a more or less systematic way. As he goes on, new subjects are selected for special study and a longer series of lessons more systematically arranged may be given, until in the college period everything may be specialized and organized in accordance with the best results of racial experience. Following this plan, knowing and doing will be continually correlated, and ends made specific and sufficiently immediate to furnish an incentive to effort. In carrying out such a plan, success depends to a very great extent upon the degree of interest excited in the individual

child by the project upon which he is engaged. If he is not greatly interested in the thing to be done, his interest in it needs to be increased by the desire to please some one or to succeed as well or better than some one else. It may also be necessary to require him to finish one project before he is allowed to undertake another.

An important question arises as to the standard that shall be adopted in judging of the success of the child's efforts. On the one hand the child must feel that he has succeeded, if interest is to continue, while, on the other, he must become less easily satisfied if he is really being educated by what he is doing. To accomplish these ends, projects must be such as are attractive to the child, but they must involve knowledge and skill in dealing with the materials used, which he possesses or can acquire before he loses all desire to carry out the projects. Occasional failures may be permitted in order that the child may appreciate the need of preparing himself to succeed; but in general he must be led to reach what *he* at least regards as success. To raise his standards of what success should mean, the work of companions should be compared with his, and later he should be made acquainted with adult standards, and finally with the higher standards of the best work. In many lines it is difficult to increase ability to do as fast as the ability to appreciate, hence care is needed that standards are not raised too rapidly so that the child becomes discouraged. This has been the case to a very great extent in drawing and manual work, where errors can readily be seen; hence children of ten or twelve are often afraid to try to make what six-year-olds attempt without hesitation.

It will be a long time before a course of study of this

kind can be successfully used by ordinary teachers in large schools where a graded system is maintained. To make it work successfully, so that pupils may pass from one grade to another and one school to another, the present standards of marking and promoting will have to be abandoned and individual records of what he has done, sent with each pupil; or the teachers must be trained so that they can quickly test a child and find out what he is prepared to undertake and upon what he needs special drill.

It will be many years before the genetic individual and project idea will dominate the planning of school-work, and in the meantime teachers will have to follow the old courses. Wherever there is freedom or progressive ideas, however, they will be permitted to modify the work in accordance with the needs and interests of the child until courses can be formulated and tested on the new basis.

Primary Grades. The transition from the active, free life outside of school to the suppressed and almost continually directed activity of the schoolroom is a change that is likely to check development in much the same way as does the transplanting of a tree from the nursery to the orchard. The aim of not checking development should at this time be made more prominent than that of giving specific knowledge and training. One of the wisest educators of the present time once said: "When I find they are trying to teach my boy anything in the kindergarten, I take him out." Children should be allowed as much freedom as possible when entering school, yet they must begin at once to learn the thing that is now most necessary, i. e., how to live and work and play with other children, as distinguished

from living an individual life. A tactful teacher who understands the imitative tendencies of children and appreciates their great suggestibility, can successfully lead them into engaging in all kinds of group-activities, without directing too much or suppressing their individuality.

In order that the conditions may be favorable for physical development the children should be allowed to be physically active much more than they usually are. They should, when possible, be taken out of doors part of the time, and should have rhythmic exercises in games and motion songs, and should have a good deal of opportunity for constructive activity in which fine and exact movements are not required. Where, as in some primary schools, the principal muscular exercise besides that of "sitting still" involves movement of the fine muscles of the eyes and vocal organs in reading, and of the fingers in writing, the conditions are certainly not favorable to physical development. When the children are required to sit quietly for long periods of time, and the air in the room is hot and close, the conditions are positively bad and the growth of the child is likely to be retarded, his physical vitality lowered and mental alertness decreased.

The conditions favoring intellectual development are also often very unfavorable. There is often little in the schoolroom to stimulate the child's perception, imagination or thought, and little opportunity to play with, examine and ask questions about what does excite his interest. Although stimulated by his teacher and companions, yet the expression of ideas is suppressed and regulated to such an extent that his intellectual activities often soon become less vigorous than when he

is outside of school, where there are more interesting things, and more freedom of expression and of doing permitted. He is in an artificial environment, where he cannot play freely and where he often has little motive for working except such as is furnished by teacher and mates. The child after a time may be interested in any activity that brings approval from the teacher or gives opportunity for competing with mates, but in the transition from interest in the things and activities themselves to the imitative and social interest in doing, there is danger of checking and misdirecting intellectual development. Sometimes the child's intellectual powers in the school are turned wholly in the direction of studying the teacher, and answering and doing according to her wishes, rather than to understanding what is being learned and accomplishing what has been undertaken. The ability to react to people and meet their wishes is very desirable but if it leads one to a condition in which he does not know or try to know for himself, but only says or does what will satisfy some one else, it must seriously interfere with intellectual development.

In conduct, the desire to please the teacher may well be one of the strongest motives at this time; but the teacher should exercise control in such a way that the child will not merely try to conform to the moods of the teacher, but will form habits of acting in proper ways toward herself, his work and his mates. In intellectual matters, however, the teacher, while doing what is necessary to arouse interest, should keep herself in the background, and not suggest by words, gestures or tone of voice what she expects the children to say, but allow them to perceive and understand for themselves.

The course of study in the primary grades has always made reading, writing and arithmetic prominent. So far as reading is concerned this practice seems to be justified by present-day conditions and demands. The child must learn of things beyond his immediate environment and must have access to the great treasures of experience and knowledge that have been accumulated through the ages. In order to do this, he must become familiar with a visual language. So necessary is reading and so immediately valuable is it, that there is justification for the practice of making reading the chief subject in the first years of school life. Arithmetic and writing are less important, less immediately useful, and studying them is likely to produce more interference with physical and mental development than reading, hence it is well that these subjects should not be emphasized so much in the primary grades. It is not necessary that they should be entirely omitted, but it is best that arithmetic should be taught incidentally and writing gradually.

Drawing, painting and modeling, as a play and as a means of expression, may be made more prominent than writing, but there should be little attempt to make them exact or artistic. Color rather than form should be used for artistic purposes, and the child should be allowed to use bright colors until he learns to appreciate the intermediate tones. Manual constructive activity should be prominent, but as a means of favoring general motor and mental development rather than of acquiring specific knowledge and skill. The results of constructive activity are less important than the activity itself; hence what has been made of blocks or sand may be quickly destroyed. Paper is a satisfactory

material for constructing many things which later must be made of more substantial material.

Before the child can read freely he needs to have his imagination stimulated and needs to be made acquainted with a wider environment by means of stories of people, animals, plants and other objects of nature. He needs also to have opportunity for observing objects and phenomena of nature. These prepare for history, geography and more serious scientific studies that are to come later. The child is now getting perceptive and experimental knowledge of things that are to be represented in imagination and later understood in a conceptual way when he studies the sciences.

Although specific knowledge and skill in æsthetic lines should not be striven for, yet the child should have many opportunities to be impressed by beautiful colors and harmonious sounds in music and poetry, and should have a good deal of practice in singing, in rhythmic motion, and in poetry and recitation, partly because they are favorable to development in desirable lines and partly because they furnish a perceptual and motor basis for later, more specific teaching and training in art, music and literature.

The methods used in the primary schools should be modeled after those used by the child in his spontaneous learning. No attempt should be made to transform the child at once into a serious worker, but, starting with his playful tendencies, he should, during the first three grades, gradually be transformed into a worker. He should be led to become interested in playing and working with words, figures, colors, forms and objects, without emphasis at first upon the specific truths to be learned or skill acquired. In doing the

various things he finds it interesting to do, he will inevitably learn a great many things incidentally, more rapidly and effectively than if he were taught the specific truths and drilled upon them. He may get the best possible training in the perception of color, form, size and pitch, and much knowledge of the physical properties of things, without any special teaching but through learning incidentally, while playing, constructing, dramatizing, etc.

Much of even the more formal subjects may thus be mastered in a largely unconscious and incidental way. Formerly the alphabet was specifically taught to children, and usually considerable time was necessary; but now the letters are learned incidentally without waste of time or effort. The success in that respect of the present-day primary teacher is well characterized in the remark of a first-grade child: "I know all the letters and I don't know when I learned them." When further progress has been made, children will also learn how to pronounce the various letter combinations and how to spell various syllables and words, without special teaching and drill and without knowing when they learned them.

The same will be true of much of what is learned in other subjects during the first two or three grades. The children will be doing interesting things concerned in the course of study, and incidentally they will be rapidly and effectively acquiring the knowledge and skill desired. It is not at all necessary that school work during this period should be systematic in the sense of being in any logical sequence or involving any specific mode of organizing ideas. The essential thing is that there shall be sufficiently varied activities and enough alternation

and combination of work and play, with objects, processes and ideas so related to each other as to make the work interesting whether the arrangement seems the easiest or not. The more systematic a course of lessons and the more consistently it leads to a few specific ends, the worse, in general, is it for primary children. It involves too much direction of the children's activity and is not varied and free enough to be interesting and educative. Moreover, the child is not used to taking in knowledge in organized form, but to receiving all sorts of varied impressions and organizing them in a crude way in accordance with his own interests and purposes at the time. His interest in organizing ideas is different from that of the organizer of the lesson-series; hence, though he may be induced to acquire the form of expression desired, there is usually no real internal organization of ideas in accordance with the ideas of the planner of the series.

Most of the earlier and more elaborate plans for teaching reading, writing and numbers were worse than no plans at all. More recently they are better, because there is less attempt to secure one or two results in a logical way, but a combination of many aims and methods and more recognition of the value of incidental learning. Even now, however, the value of the elaborate methods in various subjects is chiefly that they give many suggestions of interesting things to do with the materials concerned in the subject. Children are able to learn to read by every one of the scores of different methods that have been devised, and they have often learned without any use of a systematic method. Whatever most interests children in learning to read, and keeps them for a short time every day interested in

looking at and discriminating letter combinations and associating them with the corresponding sounds and ideas, is most successful. Success is not due so much to system as to the excitation of interest.

In numbers, by the use of special methods, children may be made to appear to make great advance during the first three grades; but it is doubtful whether they make as much real advance in the sense of being prepared for future work in arithmetic as they would if there was no attempt to teach specific facts and truths of number in a systematic way, but merely the giving of many opportunities and motives for noting, finding out and using number relations incidentally in their play and work. Such concrete and meaningful experience with numbers for the first two or three years of school life, gives a more natural basis for thorough and systematic learning later, than do systematic schemes of teaching numbers.

It is not so important that the facts of number should be known at this time as that the child should appreciate the values of numbers. He should also during this period learn the *language* of oral and visual arithmetical symbols such as "times," +, etc.

The attempt, however, to get accurate expressions of thought in the primary grades often results unfortunately, especially if the child is often required to use the exact language of mathematicians, since his ideas of number and of mathematical relations are at this time naturally concrete and entirely lacking in generality and abstract accuracy.

The teacher needs to have definite ideals of the way in which the children are to develop under her instruction, but the children themselves may well be largely uncon-

scious of the progress that they are making toward her ideal, although they may be working toward ends in which they are interested, and stimulated by the approach toward success. Children may also be led to form habits and change habits by arranging the conditions under which they work, and indicating things to be done, without directing their attention specifically to the habit that is being formed or changed. If the teacher arranges the drill in writing numbers or in dictation so that the work needs to be done rapidly, and shows approval of those who get it done first, the children will try to work rapidly without thinking anything about forming habits of rapid work; while if she emphasizes accuracy, they may form habits of working slowly and carefully without having their attention directed specifically to the way they are working. By keeping them interestedly busy, they may form both ideals and habits of industry without knowing it. Neither ideals nor habits, as consciously represented in the minds of children during this period, play as prominent a part in their development and learning as teachers usually think; and it is probable that teachers who talk most about habits and ideals succeed least well in getting the children to form them. This is surely the case if the negative phase of the ideal or habit is the one to which attention is most called.

The method by which the activity of the children may most readily be directed is not that of direct command and dictation, but of example and suggestion and of arousing interest in doing, so that the children will be largely self-directive as they are outside of school.

Although they should be shown how to accomplish what they wish to do, largely by example and sugges-

tion, yet during this period they should also learn to understand and follow directions given in words. This may be done by talking about how a thing is done while doing it, and by sometimes having a child tell how he is doing something and later asking him to tell, after he has done a thing, how he did it, perhaps in order to make it clear so that another child will understand how to do it. There should, at this period, be little telling beforehand, either by teacher or pupil, how to do new things, but the children should be prepared during this period for such procedure in the next.

Intermediate Grades. During the ages from nine to twelve, which usually cover grades from three to six, the aim should be to perfect the child's knowledge of symbols and give him facility in their use, and to introduce him to a wider environment of men and things as they are described in history and geography.

Instruction and training may now be much more specific and definite than in the preceding grades. Although incidental and largely unconscious learning may still have a place, yet the child should at this time have more definite ideas of what he is to do and of how it is to be done. It is not enough that he shall simply be doing interesting things, but he should have more work-interest in holding himself to a specific task and to more exact results. Class-drills may also be given during this period of habit formation, with more advantage and with less injury than at any other period.

The intellectual activity that may be best used and trained during this period is the imagination. In the preceding period it should be kept active in a more or less playful way, but in this period it should be directed and controlled in accordance with realities. That is, the

child should be trained in picturing absent objects and unwitnessed events as set forth in words, as they actually are and were. The child is no longer to picture solely according to fancy, but according to descriptions. If this is done he can get a knowledge of distant objects and events rivaling in clearness and vividness the local knowledge obtained by actual experience. At the same time he should learn to express clearly in oral words, and to a considerable extent in writing, what he has pictured in imagination as he has heard or read the description. If he has done a good deal of silent reading he will, before the close of this period, be almost if not quite as well able to picture what is presented by visual words as by oral.

The child should finish learning to *read* during this period. Before its close he should be able, with the help of a dictionary, to get thought and to pronounce words correctly without help from the teacher, and should be able to read with reasonably good expression. Further practice in reading should be incidental to gaining and expressing truth, and gaining a better appreciation of good literature. The aim in reading exercises during this period should not usually be good reading in general, but, more specifically, to get the exact thought or to pronounce accurately or to express effectively, one thing being made prominent at a time, then occasionally all kept in mind at once.

In *spelling*, *punctuation* and *penmanship* the child should attain a good deal of proficiency during this period, but should not need a great deal of special instruction and practice other than can be obtained incidentally. In spelling, he should know the relations between sounds and letter combinations well enough to

guess pretty well how new words are spelled, and he should be able to look them up in a dictionary. He should also be habituated to noting how words are spelled in every subject he studies, and should make a special study of words that he has misspelled and perhaps of some that he is likely to use and may misspell. No abstract grammar and few if any abstract definitions or rules of any kind should be learned during this period, as such practice is likely to lead the child to substitute verbal memory for imagination and thought. If his writing has gradually been becoming more correct in form, smaller in size and more rapid, and his position and movements are good, he will need no further special training in penmanship but only incidental practice, with care that his writing does not degenerate as he becomes more interested in what he is doing and as he strives to write as fast as necessary.

In *arithmetic*, the child has already acquired a good deal of the language necessary to the expression of numerical operations, and knows some facts of numbers. The aim should now be, not to put him as rapidly as possible in possession of the facts of number by means of memory-activity, but to teach him how to use the facts that he already knows, in finding out combinations that he does not know. For example, if he knows how to count by twos, he can easily see how to count by fours, then how to tell the number of twos or fours required to make eight, twenty, etc. If he knows what five and two are, he can readily learn $12+5=17$ and $22+5=27$, etc. If he knows that $5+5=10$, he can see that $6+5=11$ and $4+5=9$; if he knows what three times two are and what four times three are, he can easily tell what 4×23 are.

In the preceding period the child may count objects or use his fingers or form mental images of objects, but in this period he should learn to use whatever he already knows of the facts of numbers in finding out new facts. Drill in facts already learned may then be obtained by using them in gaining other facts, and formal drill is thus reduced to a minimum if not entirely eliminated. He should also learn the written modes of adding, multiplying, etc., as means to be used when large numbers are to be handled. From incidental experience the child should know considerable of fractions and weights and measures. He should now make this knowledge more complete and learn the more effective written methods of solving problems in which fractions and measures are involved. All these operations should be taught not merely as things to be learned, but as easier means of solving such problems where the numbers are large or complex.

Care should be taken that in learning the mechanism of the processes that may be used, the child shall not lose the power to represent clearly the problem to be solved. The child should become familiar with the proper use of general terms, such as sum, divisor, etc., but he should not be required to learn abstract statements, such as "the product divided by the multiplier equals the multiplicand," although he should know this truth in particular examples, and at the close of this period may be ready to express it in abstract terms.

The *history* during this period should be of individuals and of events in which they are concerned. There should be some grouping of men and events according to time, but little learning of dates. The chief purpose of history should be to enlarge the child's knowledge of

human conduct, so that he will have had a great deal of experience mentally with all sorts of people and will have learned much of the results of various kinds of conduct. He will thus be prepared to understand better the conduct of people around him and to appreciate why certain acts are to be avoided and others imitated. The historical materials should be presented in such a way that the child can use the knowledge he has of things, persons and places, in picturing what is described, but the pictures thus formed will also give him a new view of people and events that are already familiar to him.

In *geography*, the knowledge of earth phenomena and of things and places around him, obtained by actual observation, is to be added to by more detailed perception, but chiefly by means of the imagination. To this end the language of geography must be learned so that maps and their special symbols can be read. To do this the child must have practice in seeing how things around him are indicated by means of maps and figures and by the special terms applied to natural forms, to physical phenomena, and to the various industries that he has perceived or has been led to picture.

Physical facts should not, at this time, be the chief study, but people and how they live and are influenced by the climate, mountains, rivers, oceans, etc. The important thing is not the learning of certain facts, but definite, interesting pictures of distant people and places, and increasing incidental knowledge of geographical language and facts. The natural interest the child now has in seeing new things should be satisfied by the formation of vivid pictures of the new and strange.

In *drawing*, the chief aim should still be to express one's ideas of things by means of forms, but incidentally the æsthetic idea may become more prominent in the latter part of this period. What is drawn should not now merely symbolize what it stands for, but should look like it. Instruction how to proceed, especially in the drawing of solids, should therefore accompany practice. Great care, however, should be taken that appreciation of what should be done does not go too far ahead of execution, so that the child becomes distrustful of his ability and unwilling to try to draw anything.

In *manual construction* the child is at first satisfied with making things that look like objects in which he is interested; but in general he is soon desirous of having them more like real things; e. g., paper sleds satisfy for a while, but later they must be large and strong enough to be used. In the preceding period construction was largely playful, but now the child cares more for using the things after they have been made.

Although imitation may still be an important method of learning, yet it should not, as in the former period, be so much an impulse to do something that others are doing, as it should be a voluntary attempt to do things that the child desires to do, in the *way* that he is shown. The doing of the thing should be accompanied by a description of how it is done, and before the close of this period the child should have had a good deal of practice in doing things according to directions, without being shown.

The plans of teaching during this period may be more systematic than in the preceding when the child was learning in a semi-playful and unconscious way. More definite ideas of what is to be done may be formed by

the child and activities directed accordingly. The knowledge that he acquires should be classified to some extent, and there should be some use of outlines, with practice in paragraphing. This should not be formal, but the effort should be made to get him to think of one topic at a time, and thus systematic thinking, indicated by good paragraphing, will gradually become natural. The teacher needs to be very careful not to try to push this process too rapidly or to direct it wholly in accordance with her own mental tendencies, otherwise the paragraphing will have only a mechanical meaning to the child.

The child now needs less individual attention and is better able to work with a group according to direction than in the preceding period. He is greatly influenced by others and the teacher may now depend a good deal upon the competitive tendency as a motive for doing almost anything. Some individual competition is good, but it is well to have much of it in the form of competition between groups. In order that it may not become too personal, the competing groups should be changed occasionally so that the child will be working now with, and at another time against, the same individual.

In conduct the child is now influenced much more by his companion's actions and by what they are likely to do in the way of teasing him, hence the teacher can no longer rely fully upon her own personal approval as a sufficient motive to induce the child to do as he should. She must become a leader and a former of public sentiment among her children, and induce individual children to conform because of their desire to be in harmony with the public sentiment. Few children at this time can stand out very long against the sentiment of their

mates. The teacher can control most effectively by acquiring influence over the pupils who are leaders in the school.

Higher Grades. In these grades, at the age of about twelve to fourteen, the interest in study, if there is any, is genuine work-interest. The child is not satisfied with playing at doing or learning, but wants to do as adults do and know as they know. It is a time at which boys and girls often want to leave school because they cannot see the use of what they are doing; but if such children can be made to see that what they are learning will be useful to them in any occupation in which they think of engaging, they are willing to work at it. Others develop new intellectual and æsthetic interests which give them a new appreciation of art or literature. It is therefore a period in which boys and girls should be allowed to begin to specialize according to their plans and interests. To spend half of the time in book study and half in vocational work is one of the most effective ways for youths to learn the value of what they are studying. Even if the special line of study is not followed up later, it is likely to be of greater value than more general and less definite study. The boy learns more truths of value by working at several occupations, such as carpentering, plumbing, typewriting, etc., and gets in touch with the human life of the day better, than by studying general science, languages and mathematics, especially if he is not interested in them.

This is a time when the boy enjoys doing such things as men do, and likes to compete, stand tests and make records; and so far as school work is concerned, this is a period when he should spend his time not so much in getting general information as in testing and

proving the knowledge and skill he has already acquired, in new and special lines. He should no longer spend his time in *learning* to read, write, cipher, draw, construct, etc., but should see what he can do in attacking special problems involving these activities. He should thus perfect his knowledge and skill in those lines and make up his deficiencies by special study and practice when necessary, as he discovers how they limit his success; e. g., he wishes to write a letter, ordering something that he wants, or needs to make out a bill, and finds that he requires practice in more rapid writing, accurate figuring, etc. He should not now be directed so fully as to what to do and how to do it, but should have some choice as to what he shall do and considerable freedom as to how he shall work. Instead of being scolded or punished for failures, he should take the consequences of his wrong methods and his mistakes as men have to do, by paying cost of material, making over, etc.

This is a time when the child cares more for understanding things. He should be assisted in getting at the general truths involved in processes and industries, and in expressing his thoughts more accurately, instead of being required or encouraged to memorize words and formulas. In mathematics he is now better prepared and more ready to see how general principles may be applied in various lines, and is disposed to make and use generalizations. A little practical algebra and geometry may often be used, along with the general arithmetical processes.

In geography and history the teacher should aim to have the pupil not only represent in imagination what is described, but understand and state the reasons govern-

ing natural phenomena and the actions of human beings individually and in groups. Leaders in industrial lines, as well as warriors and kings, should be studied.

High School. In this period the work should be much more systematic, and ideas better organized for use. Emphasis should be placed not merely on doing things well, but upon learning to do them in the easiest, quickest and best way. The controlling ideas in doing should be not what the teacher thinks or what companions think and do, but the principles that obtain in business and social life and in art and science.

One of the chief aims should now be to perfect the concepts that have previously been formed, add to them and organize them in a systematic way. The attempt should not be made to transform youths at once into scientists or skilled artisans, but so to present the results of racial experience and study that the pupils will organize their ideas according to some general pattern. If the subjects are presented in too scientific and abstract a way, there is danger that new ideas will be superficial and verbal and will be imperfectly connected with the individual's new experiences. This is a time when many new impulses and interests are developing and it is desirable that the new things presented shall appeal to these interests.

There are two prominent opposing tendencies at this stage. One is to want to know about everything, which tends to superficial breadth of knowledge; and the other, to devote one's self wholly to one line of interest, which tends to narrow specialism. The youth, therefore, should have the opportunity to learn something of a variety of subjects, but should be required to do more thorough work in some lines than he has ever done before. The

subject receiving most attention should help in definite organization of knowledge, either in a logical, scientific way or with reference to some specific occupation. Even in this period there is danger of a teacher's carrying ideals of thoroughness too far; yet much higher standards should be applied now to the youth's work, in some lines at least. The youth should have enough experience of thorough work to know what it means; but one of the chief purposes of education during this period, especially if he is going to pursue his general education further, is to give the youth a view of the various fields of knowledge and endeavor that are open to him, in order that he may consciously direct his own development in the lines that most appeal to him.

This is the period in which ideals in the minds of the young people themselves should play a large part in their development. While an extreme degree of self-consciousness regarding one's present characteristics, in this more than other periods, should be avoided, yet ideals of what one *may* become should be made prominent by every subject that is studied.

It is not necessary to strengthen the youth's tendency to self-examination in order to find what degree of perfection has been reached, but it is desirable to keep prominent in his mind that which will make him continually strive toward an ideal. The more possibilities of knowledge and achievement that are presented to him and that he may make his own, the better.

It is a time for grouping facts under general principles, and hence whatever is learned should either be presented in an organized form or else presented in such a way that it can and will be arranged by the students, either with or without help by the teacher, in

much the same way as it has been organized by scientists or by the directors of industries and of governments. No facts should be presented in an isolated way, but always in relation to general principles. If textbooks are used, it is especially important that they should outline the subject properly, so that the general truths and their relations to particular facts, and to some extent to other general truths, shall be clearly brought out. Opportunity, however, should be given for the youth to organize ideas in his own way in a limited field. The previous study of good models in science, literature and the industries will be of considerable help.

The best model of logical organization of general truths in relation to each other is geometry and the best example of abstract generalization is algebra, yet many pupils fail to appreciate the general truths involved, and these problems are often treated as are rebuses and other forms of puzzles in which answers may be obtained by certain manipulations. When algebra is not taught in such a way as to lead the pupil to see that it is merely arithmetic generalized, it has little value. It has been found by Dearborn[1] that the standings of students in high schools and of the same students in the University of Wisconsin, in mathematics, show much less correlation than do the standings in history and language. This is probably because many high school students passed in mathematics in the high schools without understanding the general principles with which they were dealing.

In sciences also the pupils often get little real knowledge, because they are not given sufficient concrete mate-

[1] Bulletin Univ. of Wis. No. 368, 1910.

rial and have not developed sufficient power of abstract thought to appreciate general laws of whose working they have had little concrete experience. It would seem, therefore, that methods in the high school should be such as will lead pupils to gain some ability in organizing their knowledge about general truths and in making inductions for themselves, rather than such as will simply give them a large amount of organized knowledge.

This is preëminently a period in which imaginative thinking is to be transformed into abstract thinking. This is preparatory both for entering upon certain forms of vocational training in an intelligent way, and for the understanding of general truths in the sciences.

College and University. The student in college or university should have his own ideals of what he wishes to do, and one of the chief functions of the teacher should be to make him acquainted with exact standards of knowledge and achievement. All conceptions and habits should, so far as possible, be brought well toward the higher standards of perfection, although even yet many ideals and habits should not be so definitely fixed as to prevent further modification and development.

In later adolescence, the first part of which corresponds to the college period, one of the chief aims is to acquire large masses of organized knowledge. This may be accomplished by short-cut deductive methods more successfully than at any preceding period. If there has been good training previously in dealing with concrete material and organizing facts around general truths, the general truths already known will be of great use in acquiring knowledge of new subjects, and the ability to think abstractly, that has been acquired, will make it feasible for the youth to appreciate general truths briefly

illustrated, without going through the whole process of induction himself. Much attention may also be given to the relations of general truths to each other instead of the relations of particulars to generals, as in the high-school period, or to grouping particulars, as in the grammar-school period.

One of the chief functions of the college teacher should be to help the student to acquire methods of studying that will enable him to learn and assimilate large masses of information thoroughly and with the least possible waste of time and energy. The college graduate should above all things be able to use books intelligently and effectively in acquiring information upon any subject he desires to study. With this power, and a more or less extended view of human knowledge, he is prepared for advanced professional study or research.

In the university period, methods of teaching should lead to the ability to select, arrange and apply facts and truths from many sciences to particular problems and to the accomplishment of special ends. Facility must be acquired in reorganizing knowledge for use rather than for getting it in logical relations (unless the student is specializing in philosophy, in which case he is striving for more complete and logical relation of all that he knows). Clinical and research methods are therefore eminently suited to the training of university students. The best in matter and method that the race has learned should now dominate in the training of the individual. It is during this period that standards of truth as well as methods of study are established. The one engaged in scientific studies, either pure or applied, comes to depend upon the results of objective tests,

while the student of philosophy and logic relies more upon the subjective test of congruence of ideas. The student of languages and history depends upon authoritative, and students of art upon emotional, standards. In ethics the standards adopted are likely to accord with those of one's specialty.

EXERCISES

1. What differences are already recognized in methods of teaching mathematics at different ages? What differences in governing a school?

2. Discuss the advantages and difficulties of constructing a course of study on the basis of things to be done instead of on the basis of facts and truths to be learned.

3. To what extent do you apply the same standard in judging the work of your pupils? How far is it proper to do so? How far can you allow children to use their own judgment as to whether to do a task over or not?

4. Outline and discuss improvements that you think should be made in managing children and in teaching the various subjects, in the grade with which you are most familiar.

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